Hit List

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Search Results - Record(s) 1 through 16 of 16 returned.

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1. Document ID: US 20050248341 A1

L51: Entry 1 of 16 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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2. Document ID: US 20050167100 A1

L51: Entry 2 of 16 File: PGPB Aug 4, 2005

PGPUB-DOCUMENT-NUMBER: 20050167100
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050167100 A1

TITLE: Method of eliminating conductive drill parasitic influence on the measurements of transient electromagnetic components in MWD tools

PUBLICATION-DATE: August 4, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Itskovich, Gregory B.	Houston	TX	US

US-CL-CURRENT: 166/248; 166/65.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

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3. Document ID: US 20050127909 A1

L51: Entry 3 of 16 File: PGPB Jun 16, 2005

PGPUB-DOCUMENT-NUMBER: 20050127909
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050127909 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Isernhagen		DE

US-CL-CURRENT: 324/303

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

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4. Document ID: US 20030038631 A1

L51: Entry 4 of 16 File: PGPB Feb 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030038631
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030038631 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: February 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Isernhagen		DE

US-CL-CURRENT: 324/303

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

5. Document ID: US 20020125885 A1

L51: Entry 5 of 16 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020125885
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020125885 A1

TITLE: Side-looking NMR probe for oil well logging

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Reiderman, Arcady	Houston	TX	US
Beard, David R.	Houston	TX	US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

6. Document ID: US 7150316 B2

L51: Entry 6 of 16 File: USPT Dec 19, 2006

US-PAT-NO: 7150316
DOCUMENT-IDENTIFIER: US 7150316 B2

TITLE: Method of eliminating conductive drill parasitic influence on the measurements of transient electromagnetic components in MWD tools

DATE-ISSUED: December 19, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20050167100 A1	August 4, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Itskovich; Gregory B.	Houston	TX		US

US-CL-CURRENT: 166/248; 166/65.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

7. Document ID: US 7084625 B2

L51: Entry 7 of 16 File: USPT Aug 1, 2006

US-PAT-NO: 7084625
DOCUMENT-IDENTIFIER: US 7084625 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: August 1, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20050127909 A1	June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		US
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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8. Document ID: US 6844727 B2
L51: Entry 8 of 16 File: USPT Jan 18, 2005

US-PAT-NO: 6844727
DOCUMENT-IDENTIFIER: US 6844727 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303; 324/338, 343/788

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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9. Document ID: US 6583621 B2
L51: Entry 9 of 16 File: USPT Jun 24, 2003

US-PAT-NO: 6583621
DOCUMENT-IDENTIFIER: US 6583621 B2

TITLE: Method and apparatus for nuclear magnetic resonance measuring while drilling

DATE-ISSUED: June 24, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Prammer; Manfred G.	Downingtown	PA		
Dudley; James H.	Downingtown	PA		
Masak; Peter	West Chester	PA		
Goodman; George D.	Phoenixville	PA		
Morys; Marian	Downingtown	PA		
Jones; Dale A.	Houston	TX		
Bartel; Roger P.	Houston	TX		
Chen; Chen-Kang David	Houston	TX		
Larronde; Michael L.	Houston	TX		
Rodney; Paul F.	Spring	TX		
Smaardyk; John E.	Houston	TX		

US-CL-CURRENT: 324/303; 324/300

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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10. Document ID: US 6580273 B2

L51: Entry 10 of 16 File: USPT Jun 17, 2003

US-PAT-NO: 6580273
DOCUMENT-IDENTIFIER: US 6580273 B2

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: June 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/300

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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11. Document ID: US 6575535 B2

L51: Entry 11 of 16 File: USPT Jun 10, 2003

US-PAT-NO: 6575535
DOCUMENT-IDENTIFIER: US 6575535 B2

TITLE: Method and apparatus for wheel spindles and the like with improved LRO

DATE-ISSUED: June 10, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Meeker; Steven Eugene	Norwalk	OH		
Scheufler, Jr.; Richard Allen	Collins	OH		
Zuck; Christopher J.	Sandusky	OH		
Beverick; John R.	Sandusky	OH		

US-CL-CURRENT: 301/35.621; 29/894.36, 301/35.626

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 12. Document ID: US 6452388 B1

L51: Entry 12 of 16 File: USPT Sep 17, 2002

US-PAT-NO: 6452388
DOCUMENT-IDENTIFIER: US 6452388 B1

TITLE: Method and apparatus of using soft non-ferritic magnetic material in a nuclear magnetic resonance probe

DATE-ISSUED: September 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/309, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 13. Document ID: US 6348792 B1

L51: Entry 13 of 16 File: USPT Feb 19, 2002

US-PAT-NO: 6348792
DOCUMENT-IDENTIFIER: US 6348792 B1

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: February 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beard; David	Houston	TX		
Reiderman; Arcady	Houston	TX		

US-CL-CURRENT: 324/303; 324/300, 324/307

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

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14. Document ID: US 3811856 A

L51: Entry 14 of 16 File: USPT May 21, 1974

US-PAT-NO: 3811856
DOCUMENT-IDENTIFIER: US 3811856 A

TITLE: METHOD FOR MOLDING AN AIR BEARING MAGNETIC HEAD WITH A GLASS SLIDER BODY

DATE-ISSUED: May 21, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruszczyk; James F.	San Jose	CA		
Secrist; Duane R.	San Jose	CA		

US-CL-CURRENT: 65/48; 29/603.06, 29/603.12, 360/234.7, 65/155, 65/49, 65/59.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

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15. Document ID: US 3678211 A

L51: Entry 15 of 16 File: USPT Jul 18, 1972

US-PAT-NO: 3678211
DOCUMENT-IDENTIFIER: US 3678211 A

TITLE: AIR BEARING MAGNETIC HEAD WITH GLASS SLIDER BODY

DATE-ISSUED: July 18, 1972

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hoogendorn; Helen M.	Poughkeepsie	NY		
Narken; Bernt	Poughkeepsie	NY		
Roeder; Paul J.	Carmel	IN		
Sunners; Brian	Poughkeepsie	NY		

US-CL-CURRENT: 360/235.3; 29/603.06, 360/234.7, 65/48, 65/49

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

16. Document ID: US 3670112 A

L51: Entry 16 of 16 File: USPT Jun 13, 1972

US-PAT-NO: 3670112
DOCUMENT-IDENTIFIER: US 3670112 A

TITLE: AIR BEARING MAGNETIC HEAD WITH GLASS SLIDER BODY

DATE-ISSUED: June 13, 1972

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruszczyk; James F.	San Jose	CA		
Secrist; Duane R.	San Jose	CA		

US-CL-CURRENT: 360/235.3; 249/91, 360/119, 360/234.7, 65/48, 65/49

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Term	Documents
NONFERRITE	18
NONFERRITES	0
NON-FERRITE	144
NON-FERRITES	5
NONFERRITIC$4	0
NONFERRITIC	13
NON-FERRITIC$4	0
NON-FERRITIC	96
((NONFERRITE OR NONFERRITIC$4 OR NON-FERRITE OR NON-FERRITIC$4) AND 45).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16
(L45 AND (NONFERRITE OR NONFERRITIC$4 OR NON-FERRITE OR NON-FERRITIC$4)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16

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DATE: Friday, February 16, 2007

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☐	L62	L61 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same (nonferrite or nonferritic$4 or non-ferrite or non-ferritic$4) same (powder$5 or grain) same (saturat$4 with flux with density))	3
☐	L61	L60 and ((antenna or coil or probe or winding or ring or anulus or loop) same (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce))))	9
☐	L60	L59 and (rf or "radio frequency" or radio-frequency or radiofrequency)	9
☐	L59	L58 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce)))	10
☐	L58	L57 and (((earth or land or surface) with (formation or mountain or valley or desert or canyon)) same (wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or well))	1930
☐	L57	(324/300-377.ccls.)	15595
☐	L56	L55 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same (nonferrite or nonferritic$4 or non-ferrite or non-ferritic$4) same (powder$5 or grain) same (saturat$4 with flux with density))	3
☐	L55	L54 and (powder$5 or grain)	9
☐	L54	L53 and ((magnetic or magnetically) with (permeable or permeability))	9
☐	L53	L52 and (permeable or permeability)	9
☐	L52	L51 and (saturat$4 with flux with density)	9
☐	L51	L45 and (nonferrite or nonferritic$4 or non-ferrite or non-ferritic$4)	16
☐	L50	L49 and (rf or "radio frequency" or radio-frequency or radiofrequency)	2
☐	L49	L48 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce)))	4
☐	L48	L47 and ((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce))	19
☐	L47	L46 and ((resistive or resistivity) same (property or parameters or component or aspect) same (formation or earth or wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt))	2468

☐	L46	L45 and (resistive or resistivity)	7600
☐	L45	(((earth or land or surface) with (formation or mountain or valley or desert or canyon)) same (wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or well))	67277
☐	L44	L43 and (((earth or land or surface) with (formation or mountain or valley or desert or canyon)) same (wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or well))	2
☐	L43	L42 and ((antenna or coil or probe or winding or ring or anulus or loop) same (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce))))	16
☐	L42	L41 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce)))	16
☐	L41	L38 and ((electric or electrical or electricity or electrically or eletromagnetic$4 or electro-magnetic$4) same (property or parameter or component or aspect) same (formation or earth or wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt))	63
☐	L40	L39 and (((magnet or magnetic or magnetically) same (core or cored or corable or coring)) same((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce)))	16
☐	L39	L38 and ((electric or electrical or electricity or electrically or eletromagnetic$4 or electro-magnetic$4) same (property or parameters or component or aspect) same (formation or earth or wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt))	63
☐	L38	L37 and ((electric or electrical or electricity or electrically or eletromagnetic$4 or electro-magnetic$4) same (property or parameters or component or aspect))	104
☐	L37	L36 and (rf or "radio frequency" or radio-frequency or radiofrequency)	139
☐	L36	L35 and (formation or earth or wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt)	422
☐	L35	L34 and ((magnet or magnetic or magnetically) same (core or cored or corable or coring))	966
☐	L34	L33 and ((core or cored or corable or coring) same (antenna or coil or probe or winding or ring or anulus or loop))	1093
☐	L33	L32 and (antenna or coil or probe or winding or ring or anulus or loop)	1332
☐	L32	L31 and (core or cored or corable or coring)	1665
☐	L31	L30 and ((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4 or low or lower or lowering or reduced or reducing or reduce))	3534
☐	L30	((amorphous with metal) or metglas or laminate or ribbon or kapton or (polyimide with film) or (soft or ferrite or ferritic or core or powder$4 or ferous or ferite or ferrous or iron or FE or "SmCo" or cobalt or cobault or samarium or sumariam))	4510625

☐	L29	L20 and ((magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5) with (dampening or damp$4 or cancel$7 or null$4 or insulat$4))	11
☐	L28	L20 and (hysteresis)	44
☐	L27	L20 and (powder$5 or grain or particle or particulate)	53
☐	L26	L20 and (nonferrite or nonferritic$4 or non-ferrite or non-ferritic$4)	5
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☐	L25	L24 and (cor$4)	4
☐	L24	L23 and (powder$5 or grain)	6
☐	L23	6069479	11
☐	L22	L21 and (powder$5 or grain)	11
☐	L21	6215304	29
		DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L20	L19 and (magnetostrictive or magnetostriction or magneto-restrict$5 or magnetorestrict$5)	58
☐	L19	L18 and (antenna or coil or probe and size or loop or wavelength or hysteresis or wave-length or "wave length" or grain)	4609
☐	L18	L17 and (soft or ferrite or ferritic or core or powder$4 or ferous or ferite or ferrous or iron or FE or "SmCo" or cobalt or cobault or samarium or sumariam)	7783
☐	L17	L13 and (ring$4 or damp$4 or acoustic$6 or sound or cancel$7 or null$4 and insulat$8)	8843
☐	L16	L15 and (antenna or coil or probe and size or loop or wavelength or hysteresis or wave-length or "wave length" or grain)	4571
☐	L15	L14 and (soft or ferrite or ferritic or core or powder$4 or ferous or ferite or ferrous or iron or FE or "SmCo" or cobalt or cobault or samarium or sumariam)	7725
☐	L14	L13 and (ring$4 or damp$4 or acoustic46 or sound or cancel$7 or null$4 and insulat$8)	8768
☐	L13	L12 and (formation or earth or wellbore or well-bore or "well bore" or "bore hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt)	12068
☐	L12	L11 and ((magnetic adj resonance) or MRI or NMR)	16382
☐	L11	((amorphous with (material or metal)) or metglas or laminate or ribbon or kapton or (polyimide with film) or fluxtrol)	629710
☐	L10	((amorphous with (material or metal)) or metglas or laminate or ribbon or kapton or (polyimide with film))	629681
☐	L9	L5 not L6	16
☐	L8	L7 and (antenna or coil or probe and size or loop or wavelength or wave-length or "wave length")	42
☐	L7	L6 and (soft or ferrite or ferritic or core or powder$4 or ferous or ferrous or iron or FE or fluxtrol or "SmCo" or cobalt or cobault or samarium or sumariam)	44
☐	L6	L5 and (ring$4 or damp$4 or acoustic46 or sound or cancel$7 or null$4 and insulat$8)	46
☐	L5	L4 and (formation or earth or wellbore or well-bore or "well bore" or "bore	62

		hole" or borehole or bore-hole or logging or lwd or mwd or lwt or mwt)	
☐	L4	L3 and ((magnetic adj resonance) or MRI or NMR)	87
☐	L3	L2 and (magnetostrictive or magnetostriction)	2226
☐	L2	((amorphous with metal) or metglas or laminate or ribbon or kapton or (polyimide with film))	568010
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END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 16 of 16 returned.

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1. Document ID: US 20070010702 A1

L43: Entry 1 of 16 File: PGPB Jan 11, 2007

PGPUB-DOCUMENT-NUMBER: 20070010702
PGPUB-FILING-TYPE:
DOCUMENT-IDENTIFIER: US 20070010702 A1

TITLE: Medical device with low magnetic susceptibility

PUBLICATION-DATE: January 11, 2007

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wang; Xingwu	Wellsville	NY	US
Greenwald; Howard J.	Rochester	NY	US

US-CL-CURRENT: 600/8; 424/422

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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2. Document ID: US 20050248341 A1

L43: Entry 2 of 16 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

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3. Document ID: US 20050107870 A1

L43: Entry 3 of 16 File: PGPB May 19, 2005

PGPUB-DOCUMENT-NUMBER: 20050107870
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050107870 A1

TITLE: Medical device with multiple coating layers

PUBLICATION-DATE: May 19, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wang, Xingwu	Wellsville	NY	US
Greenwald, Howard J.	Rochester	NY	US

US-CL-CURRENT: 623/1.44

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

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4. Document ID: US 20050079132 A1

L43: Entry 4 of 16 File: PGPB Apr 14, 2005

PGPUB-DOCUMENT-NUMBER: 20050079132
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050079132 A1

TITLE: Medical device with low magnetic susceptibility

PUBLICATION-DATE: April 14, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wang, Xingwu	Wellsville	NY	US
Greenwald, Howard J.	Rochester	NY	US
Gunderman, Robert D.	Honeyoye Falls	NY	US

US-CL-CURRENT: 424/1.11; 424/422, 424/423, 600/8

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De

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5. Document ID: US 20050025797 A1

L43: Entry 5 of 16 File: PGPB Feb 3, 2005

PGPUB-DOCUMENT-NUMBER: 20050025797
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050025797 A1

TITLE: Medical device with low magnetic susceptibility

PUBLICATION-DATE: February 3, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wang, Xingwu	Wellsville	NY	US
Greenwald, Howard Jay	Rochester	NY	US

US-CL-CURRENT: 424/422; 424/423, 424/489

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 6. Document ID: US 20040254419 A1

L43: Entry 6 of 16 File: PGPB Dec 16, 2004

PGPUB-DOCUMENT-NUMBER: 20040254419
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040254419 A1

TITLE: Therapeutic assembly

PUBLICATION-DATE: December 16, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wang, Xingwu	Wellsville	NY	US
Greenwald, Howard J.	Rochester	NY	US
Lanzafame, John	Victor	NY	US
Weiner, Michael L.	Webster	NY	US
Connelly, Patrick R.	Rochester	NY	US

US-CL-CURRENT: 600/8; 424/1.11, 424/422

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 7. Document ID: US 20040212269 A1

L43: Entry 7 of 16 File: PGPB Oct 28, 2004

PGPUB-DOCUMENT-NUMBER: 20040212269
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040212269 A1

TITLE: Selective etching process for cutting amorphous metal shapes and components made thereof

PUBLICATION-DATE: October 28, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Decristofaro, Nicholas J.	Chatham	NJ	US
Fish, Gordon E.	Montclair	NJ	US
Lindquist, Scott M.	Myrtle Beach	SC	US
Kroger, Carl E.	Aynor	SC	US

US-CL-CURRENT: 310/216

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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8. Document ID: US 20040150285 A1

L43: Entry 8 of 16 File: PGPB Aug 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040150285
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040150285 A1

TITLE: Low core loss amorphous metal magnetic components for electric motors

PUBLICATION-DATE: August 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Decristofaro, Nicholas J.	Chatham	NJ	US
Fish, Gordon E.	Montclair	NJ	US
Lindquist, Scott M.	Myrtle Beach	SC	US
Kroger, Carl E.	Aynor	SC	US

US-CL-CURRENT: 310/216; 428/611, 428/900

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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9. Document ID: US 20040046470 A1

L43: Entry 9 of 16 File: PGPB Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040046470
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040046470 A1

TITLE: Method of constructing a unitary amorphous metal component for an electric machine

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Decristofaro, Nicholas J.	Chatham	NJ	US
Lindquist, Scott M.	Myrtle Beach	SC	US
Renduchintala, Sastry S.	Myrtle Beach	SC	US
Kroger, Carl E.	Aynor	SC	US

US-CL-CURRENT: 310/156.32; 156/185, 156/268, 428/592

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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10. Document ID: US 20030111926 A1

L43: Entry 10 of 16 File: PGPB Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030111926
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030111926 A1

TITLE: Unitary amorphous metal component for an electric machine

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Decristofaro, Nicholas J.	Chatham	NJ	US
Lindquist, Scott M.	Myrtle Beach	SC	US
Renduchintala, Sastry S.	Myrtle Beach	SC	US
Kroger, Carl E.	Aynor	SC	US

US-CL-CURRENT: 310/216

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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11. Document ID: US 20020158540 A1

L43: Entry 11 of 16 File: PGPB Oct 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020158540
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020158540 A1

TITLE: Laminated amorphous metal component for an electric machine

PUBLICATION-DATE: October 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY

Lindquist, Scott M.	Horry	SC	US
Fish, Gordon E.	Montclair	NJ	US
DeCristofaro, Nicholas J.	Morris	NJ	US
Stamatis, Peter J.	Morristown	NJ	US

US-CL-CURRENT: 310/216

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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12. Document ID: US 7144468 B2

L43: Entry 12 of 16 File: USPT Dec 5, 2006

US-PAT-NO: 7144468
DOCUMENT-IDENTIFIER: US 7144468 B2

TITLE: Method of constructing a unitary amorphous metal component for an electric machine

DATE-ISSUED: December 5, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20040046470 A1	March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Decristofaro; Nicholas J.	Chatham	NJ		US
Lindquist; Scott M.	Myrtle Beach	SC		US
Renduchintala; Sastry S.	Myrtle Beach	SC		US
Kroger; Carl E.	Aynor	SC		US

US-CL-CURRENT: 156/185; 156/191, 156/193, 310/45, 310/46

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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13. Document ID: US 6803694 B2

L43: Entry 13 of 16 File: USPT Oct 12, 2004

US-PAT-NO: 6803694
DOCUMENT-IDENTIFIER: US 6803694 B2

TITLE: Unitary amorphous metal component for an axial flux electric machine

DATE-ISSUED: October 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Decristofaro; Nicholas J.	Chatham	NJ
Lindquist; Scott M.	Myrtle Beach	SC
Renduchintala; Sastry S.	Myrtle Beach	SC
Kroger; Carl E.	Aynor	SC

US-CL-CURRENT: 310/216; 310/156.32, 310/268

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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14. Document ID: US 6784588 B2

L43: Entry 14 of 16 File: USPT Aug 31, 2004

US-PAT-NO: 6784588
DOCUMENT-IDENTIFIER: US 6784588 B2

TITLE: Low core loss amorphous metal magnetic components for electric motors

DATE-ISSUED: August 31, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeCristofaro; Nicholas J.	Chatham	NJ		
Fish; Gordon E.	Montclair	NJ		
Lindquist; Scott M.	Myrtle Beach	SC		
Kroger; Carl E.	Aynor	SC		

US-CL-CURRENT: 310/216

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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15. Document ID: US 6737784 B2

L43: Entry 15 of 16 File: USPT May 18, 2004

US-PAT-NO: 6737784
DOCUMENT-IDENTIFIER: US 6737784 B2

TITLE: Laminated amorphous metal component for an electric machine

DATE-ISSUED: May 18, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lindquist; Scott M.	Myrtle Beach	SC	29579	
Fish; Gordon E.	Montclair	NJ	07043	
DeCristofaro; Nicholas J.	Chatham	NJ	07928	
Stamatis; Peter J.	Morristown	NJ	07960	

US-CL-CURRENT: 310/216; 310/251, 310/254, 310/261

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

16. Document ID: US 20050248341 A1

L43: Entry 16 of 16 File: DWPI Nov 10, 2005

DERWENT-ACC-NO: 2005-784158
DERWENT-WEEK: 200580

TITLE: Electrical properties evaluation apparatus for earth formation surrounding borehole, includes antenna assemblies having magnetic core formed from material having high internal magnetostrictive damping, or low magnetostriction

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANTENNA	397782
ANTENNAS	95470
COIL	1326024
COILS	439974
PROBE	397662
PROBES	186685
WINDING	729911
WINDINGS	246991
RING	2511955
RINGS	705080
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Search Results - Record(s) 1 through 2 of 2 returned.

1. Document ID: US 20050248341 A1

L44: Entry 1 of 2 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

2. Document ID: US 20050248341 A1

L44: Entry 2 of 2 File: DWPI Nov 10, 2005

DERWENT-ACC-NO: 2005-784158
DERWENT-WEEK: 200580
COPYRIGHT 2007 DERWENT INFORMATION LTD

TITLE: Electrical properties evaluation apparatus for earth formation surrounding borehole, includes antenna assemblies having magnetic core formed from material having high internal magnetostrictive damping, or low magnetostriction

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
EARTH	668330
EARTHS	22105
LAND	325567
LANDS	73384
SURFACE	8604142
SURFACES	2858102
FORMATION	2129858
FORMATIONS	111819
MOUNTAIN	85121
MOUNTAINS	7557
(L43 AND (((EARTH OR LAND OR SURFACE) WITH (FORMATION OR MOUNTAIN OR VALLEY OR DESERT OR CANYON)) SAME (WELLBORE OR WELL-BORE OR "WELL BORE" OR "BORE HOLE" OR BOREHOLE OR BORE-HOLE OR WELL))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20050248341 A1

L49: Entry 1 of 4 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 6445307 B1

L49: Entry 2 of 4 File: USPT Sep 3, 2002

US-PAT-NO: 6445307
DOCUMENT-IDENTIFIER: US 6445307 B1

TITLE: Drill string telemetry

DATE-ISSUED: September 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rassi; Dareyoush	Swansea			GB
Zhuravlev; Yuri	Swansea			GB

US-CL-CURRENT: 340/854.6; 324/303, 340/854.8, 343/742

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 3. Document ID: US 20050248341 A1

L49: Entry 3 of 4 File: DWPI Nov 10, 2005

DERWENT-ACC-NO: 2005-784158
DERWENT-WEEK: 200580

TITLE: Electrical properties evaluation apparatus for earth formation surrounding borehole, includes antenna assemblies having magnetic core formed from material having high internal magnetostrictive damping, or low magnetostriction

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 3205477 A

L49: Entry 4 of 4 File: USOC Sep 7, 1965

US-PAT-NO: 3205477
DOCUMENT-IDENTIFIER: US 3205477 A

TITLE: Electroacoustical logging while drilling wells

DATE-ISSUED: September 7, 1965

INVENTOR-NAME: KALBFELL DAVID C

US-CL-CURRENT: 367/82; 73/152.03, 73/152.16

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Term	Documents
MAGNET	497290
MAGNETS	203489
MAGNETIC	1709016
MAGNETICS	15619
MAGNETICALLY	183802
MAGNETICALLIES	0
MAGNETICALLYS	1
CORE	1227264
CORES	205808

CORED	22527
(L48 AND (((MAGNET OR MAGNETIC OR MAGNETICALLY) SAME (CORE OR CORED OR CORABLE OR CORING)) SAME ((MAGNETOSTRICTIVE OR MAGNETOSTRICTION OR MAGNETO-RESTRICT$5 OR MAGNETORESTRICT$5) WITH (DAMPENING OR DAMP$4 OR CANCEL$7 OR NULL$4 OR INSULAT$4 OR LOW OR LOWER OR LOWERING OR REDUCED OR REDUCING OR REDUCE)))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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L49: Entry 2 of 4 File: USPT Sep 3, 2002

DOCUMENT-IDENTIFIER: US 6445307 B1
TITLE: Drill string telemetry

Abstract Text (1):
A telemetry transmitter located in a portion of a drill string comprises an input for receiving and transmitting data obtained from at least one transducer arranged to sense a parameter of the drill string and/or a parameter of the surrounding medium. The transmitter comprises a magnetic dipole arranged to transmit an electromagnetic data signal, a current dipole arranged to transmit an electromagnetic data signal and control means for adaptively varying the power output from the magnetic and current dipoles, according to the orientation of the portion of the drill string containing the transmitter and according to the electrical resistivity of the medium surrounding the portion of the drill string containing the transmitter.

Brief Summary Text (4):
Among presently used wireless communication techniques such as mud-pulse, acoustic and electromagnetic, the latter is the most promising in terms of its potential for measurement whilst drilling purposes. Typically, known electromagnetic drill string telemetry transmitters comprise a low-frequency radio transmitter located adjacent the drill bit. Data obtained from transducers in the drill bit are first digitised and then transmitted from the borehole to the earth's surface through the rock formation. The signal is then detected and decoded by a receiver placed on the earth's surface, adjacent the rig site. In the frequency range of 2.5-50 Hz, this technique is capable of receiving data from a depth of 5000 meters.

Brief Summary Text (7):
Another disadvantage of known current dipoles is that it is difficult to inject sufficient current into rock types, such as dolomite, which have a high resistivity value.

Brief Summary Text (11):
Therefore in both said methods of magnetic field generation, the data at the earth's surface is often undetectable or weak depending on the resistivity and/or orientation of the portion of the drill string containing the transmitter.

Brief Summary Text (13):
The examination of the technical art shows a trend of improvement in transmitter construction, in the first place oriented towards improving the quality of the data transmitted from the borehole bottom. This concerns the increase in the power of the emitted signals in order to compensate for the inherent signal attenuation in the conductive media of the formation. Moreover, in deep drilling and especially in directional drilling for oil and gas, the drill traverses many layers with variable conductive and dielectric properties and the resistivity of clay layers over hydrocarbon deposits can change by more than 100%. This may alter the amplitude of the measured telemetry signal by superimposing on it a noise component thereby complicating the decoding of the telemetry signals.

Brief Summary Text (16):
In accordance with this invention there is provided a method of transmitting an

electromagnetic signal containing data obtained from at least one transducer situated in a drill string, the method comprising adaptively controlling the power output by magnetic and current dipoles of a transmitter located in a portion of the drill string, according to the orientation of said portion of the drill string and according to the electrical resistivity of the medium surrounding said portion of the drill string.

Brief Summary Text (17):
The present invention is partly based on the realisation that a current dipole transmitter is unsuitable for use when drilling vertically and when drilling through high resistivity rock formations, and partly based on the realisation that the magnetic field radiated by a magnetic dipole transmitter diminishes very quickly with distance and thus is unsuitable for use when drilling at larger depths. The transmitter of the present invention thus combines a current dipole and a magnetic dipole source, wherein electrical power can be adaptively distributed between these two sources, according to the orientation of the drilling and the properties of the formation, in order to establish optimised and reliable reception of data at the earth's surface.

Brief Summary Text (24):
Preferably, the power output by the magnetic dipole is increased when the resistivity of the medium surrounding the portion of the drill string containing the transmitter is above a predetermined value.

Brief Summary Text (27):
Preferably, the power output by the current dipole is increased when the resistivity of the medium surrounding the portion of the drill string containing the transmitter is below a predetermined value.

Brief Summary Text (29):
In one embodiment, the power output by said electric dipole and magnetic dipole sources are controlled from the earth's surface by transmitting a control current to the transmitter, according to data which is received from the transmitter concerning its orientation and the resistivity of its surrounding drilling medium.

Brief Summary Text (30):
In an alternative embodiment, the orientation of the portion of the drill string and the electrical resistivity of the medium surrounding said portion of the drill string are detected by the transmitter, which is then arranged to adaptively control the power output by said magnetic and current dipoles, according to the sensed orientation and resistivity values. Also, in accordance with this invention there is provided a drill string telemetry transmitter located in a portion of the drill string, the transmitter comprising a input for receiving data obtained from at least one transducer arranged to sense a parameter of the drill string and/or a parameter of the surrounding medium, a magnetic dipole arranged to transmit an electromagnetic signal comprising said data, a current dipole arranged to transmit an electromagnetic signal comprising said data and control means for adaptively varying the power output from said magnetic and current dipoles, so as to alter their respective output signals, according to the orientation of said portion of the drill string and according to the electrical resistivity of the medium surrounding said portion of the drill string.

Brief Summary Text (32):
Preferably the transmitter also comprises a sensor for sensing the electrical resistivity of the medium surrounding said portion of the drill string, said control means being arranged to adaptively vary the power applied to said magnetic and current dipoles according to an output of said resistivity sensor.

Detailed Description Text (11):
Referring to FIG. 4 of the drawings, the core of the magnetic dipole bars comprises

a stack of laminated sheets 74 of transformer steel, which are electrically insulated from each other. The stack has a width "B", height "H" and length "L". The material of the sheets 74 is selected to provide high saturation magnetisation, high permeability, low specific losses, low magnetostriction and low cost. Electrical steel such as the type used in large power transformers is a suitable material, which satisfies all of the above-mentioned requirements: saturation magnetisation up to 2T, permeability 30,000-40,000, total losses as less than 1 W/kg at 50 Hz frequency.

Detailed Description Text (13):
Magnetic and current dipoles 24, 38 are selected via switch 81, which is controlled by the control circuit 79. This circuit has a number of inputs S1 . . . SN according to the number of sensors used to monitor the drilling process, environmental parameters, as well as the control signal transmitted from the earth surface to control the telemetry transmitter parameters. A receiver arranged to receive the control signal from the earth's surface contains both magnetic and current sensors and it is possible to control the power that is output from the magnetic or current dipoles 24, 38 independently or simultaneously. In the latter case, the switch 81 connects the conductors 30 and 34 in parallel. The transmitter also comprises sensors (not shown) for sensing the orientation of the transmitter and for sensing the resistivity of the surrounding rock formation. The switch 81 is thus able to automatically control the power that is output by the magnetic and current dipoles 24, 28, either automatically by means of the sensors (not shown) or by means of control signals from the earth surface.

Detailed Description Text (18):
The magnetic fields are detected at the earth's surface 94 by a magnetometer connected to a processor 100. If necessary, in one mode of operation, control signals can be sent back down to the transmitter in the drill string, in order to adaptively vary the power output by the magnetic or current dipoles 24, 38, according to data which is received from the transmitter containing details of its orientation and the resistivity of the surrounding rock formation 16.

CLAIMS:

1. A method of transmitting an electromagnetic signal containing data obtained from at least one transducer in a drill string, the method comprising: sensing the orientation of the drill string and/or the electrical resistivity of the medium surrounding the portion of the drill string containing a transmitter and outputting a signal; supplying power to the transmitter located in the portion of the drill string, the transmitter containing a magnetic and a current dipole; and controlling the power output by the magnetic and the current dipoles to optimize the transmission of data from the transducer based on the signal.

4. A method as claimed in claim 1, increasing the power output by the magnetic dipole when the resistivity of the medium surrounding the portion of the drill string containing the transmitter is above a predetermined value.

8. A method as claimed in claim 1, increasing the power output by the current dipole when the resistivity of the medium surrounding the portion of the drill string containing the transmitter is below a predetermined value.

11. A drill string telemetry transmitter located in a portion of a drill string, the transmitter comprising an input for receiving data obtained from at least one transducer arranged to sense a parameter of the drill string and/or a parameter of the surrounding medium, a magnetic dipole arranged to transmit an electromagnetic signal comprising said data, a current dipole arranged to transmit an electromagnetic signal comprising said data and control means for adaptively varying the power output by said magnetic and current dipoles, according to the orientation of said portion of the drill string and according to the electrical

resistivity of the medium surrounding said portion of the drill string.

13. A drill string telemetry transmitter as claimed in claim 11, comprising a sensor for sensing the electrical resistivity of the medium surrounding said portion of the drill string, said control means being arranged to adaptively vary the power applied to said magnetic and current dipoles according to an output of said resistivity sensor.

17. A drill string telemetry system comprising a first transmitter located in a lower portion of the drill string, said first transmitter comprising an input connected to at least one transducer arranged to sense a parameter of the drill string and/or a parameter of the surrounding medium, said transmitter being arranged to transmit data output from the transducers, a and a second transmitter located in an upper portion of the drill string, said second transmitter comprising a receiver arranged to receive the data transmitted by said first transmitter, a magnetic dipole arranged to transmit an electromagnetic signal comprising said data, a current dipole arranged to transmit an electromagnetic signal comprising said data and control means for adaptively varying the power output from said magnetic and current dipoles, according to the orientation of said upper portion of the drill string and according to the electrical resistivity of the medium surrounding said upper portion of the drill string.

19. A drill string telemetry system as claimed in claim 17, wherein said first transmitter comprises a magnetic dipole arranged to transmit an electromagnetic signal comprising said data, a current dipole arranged to transmit an electromagnetic signal comprising said data and control means for adaptively varying the power output from said magnetic and current dipoles, according to the orientation of said lower portion of the drill string and according to the electrical resistivity of the medium surrounding said lower portion of the drill string.

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☐ 1. Document ID: US 20050248341 A1

L50: Entry 1 of 2 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 20050248341 A1

L50: Entry 2 of 2 File: DWPI Nov 10, 2005

DERWENT-ACC-NO: 2005-784158
DERWENT-WEEK: 200580

TITLE: Electrical properties evaluation apparatus for earth formation surrounding borehole, includes antenna assemblies having magnetic core formed from material having high internal magnetostrictive damping, or low magnetostriction

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

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Term	Documents
RF	382676
RFS	2625
"RADIO FREQUENCY"	0
RADIO-FREQUENCY	33379
RADIO-FREQUENCIES	353
RADIO-FREQUENCYS	0
RADIOFREQUENCY	13796
RADIOFREQUENCIES	271
RADIOFREQUENCYS	0
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(L49 AND (RF OR "RADIO FREQUENCY" OR RADIO-FREQUENCY OR RADIOFREQUENCY)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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☐ 1. Document ID: US 20050248341 A1

L55: Entry 1 of 9 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20050127909 A1

L55: Entry 2 of 9 File: PGPB Jun 16, 2005

PGPUB-DOCUMENT-NUMBER: 20050127909
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050127909 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE

Rottengatter, Peter	Isernhagen	DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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3. Document ID: US 20030038631 A1

L55: Entry 3 of 9 File: PGPB Feb 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030038631
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030038631 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: February 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Isernhagen		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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4. Document ID: US 20020125885 A1

L55: Entry 4 of 9 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020125885
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020125885 A1

TITLE: Side-looking NMR probe for oil well logging

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Reiderman, Arcady	Houston	TX	US
Beard, David R.	Houston	TX	US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

5. Document ID: US 7084625 B2

L55: Entry 5 of 9 File: USPT Aug 1, 2006

US-PAT-NO: 7084625
DOCUMENT-IDENTIFIER: US 7084625 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: August 1, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20050127909 A1	June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		US
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. De

6. Document ID: US 6844727 B2

L55: Entry 6 of 9 File: USPT Jan 18, 2005

US-PAT-NO: 6844727
DOCUMENT-IDENTIFIER: US 6844727 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303; 324/338, 343/788

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. De

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7. Document ID: US 6580273 B2

L55: Entry 7 of 9 File: USPT Jun 17, 2003

US-PAT-NO: 6580273
DOCUMENT-IDENTIFIER: US 6580273 B2

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: June 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/300

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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8. Document ID: US 6452388 B1

L55: Entry 8 of 9 File: USPT Sep 17, 2002

US-PAT-NO: 6452388
DOCUMENT-IDENTIFIER: US 6452388 B1

TITLE: Method and apparatus of using soft non-ferritic magnetic material in a nuclear magnetic resonance probe

DATE-ISSUED: September 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/309, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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9. Document ID: US 6348792 B1

L55: Entry 9 of 9 File: USPT Feb 19, 2002

US-PAT-NO: 6348792
DOCUMENT-IDENTIFIER: US 6348792 B1

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: February 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beard; David	Houston	TX		
Reiderman; Arcady	Houston	TX		

US-CL-CURRENT: 324/303; 324/300, 324/307

Term	Documents
GRAIN	368648
GRAINS	197554
POWDER$5	0
POWDER	1177313
POWDERA	25
POWDERAAS	1
POWDERABIE	1
POWDERABLE	68
POWDERABOUT	1
POWDERACTU	1
POWDERAD	8
(L54 AND (POWDER$5 OR GRAIN)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	9

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Search Results - Record(s) 1 through 3 of 3 returned.

1. Document ID: US 20050248341 A1

L56: Entry 1 of 3 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

2. Document ID: US 6844727 B2

L56: Entry 2 of 3 File: USPT Jan 18, 2005

US-PAT-NO: 6844727
DOCUMENT-IDENTIFIER: US 6844727 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303; 324/338, 343/788

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

3. Document ID: US 6452388 B1

L56: Entry 3 of 3 File: USPT Sep 17, 2002

US-PAT-NO: 6452388
DOCUMENT-IDENTIFIER: US 6452388 B1

TITLE: Method and apparatus of using soft non-ferritic magnetic material in a nuclear magnetic resonance probe

DATE-ISSUED: September 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/309, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
MAGNET	497290
MAGNETS	203489
MAGNETIC	1709016
MAGNETICS	15619
MAGNETICALLY	183802
MAGNETICALLIES	0
MAGNETICALLYS	1
CORE	1227264
CORES	205808
CORED	22527
COREDS	5
(L55 AND (((MAGNET OR MAGNETIC OR MAGNETICALLY) SAME (CORE OR CORED OR CORABLE OR CORING)) SAME (NONFERRITE OR NONFERRITIC$4 OR NON-FERRITE OR NON-FERRITIC$4) SAME (POWDER$5 OR GRAIN) SAME (SATURAT$4 WITH FLUX WITH	3

DENSITY))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.

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Search Results - Record(s) 1 through 9 of 9 returned.

1. Document ID: US 20050248341 A1

L61: Entry 1 of 9 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

2. Document ID: US 20050127909 A1

L61: Entry 2 of 9 File: PGPB Jun 16, 2005

PGPUB-DOCUMENT-NUMBER: 20050127909
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050127909 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE

Rottengatter, Peter	Isernhagen		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 3. Document ID: US 20030038631 A1

L61: Entry 3 of 9 File: PGPB Feb 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030038631
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030038631 A1

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

PUBLICATION-DATE: February 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Isernhagen		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 20020125885 A1

L61: Entry 4 of 9 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020125885
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020125885 A1

TITLE: Side-looking NMR probe for oil well logging

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Reiderman, Arcady	Houston	TX	US
Beard, David R.	Houston	TX	US

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 5. Document ID: US 7084625 B2

L61: Entry 5 of 9 File: USPT Aug 1, 2006

US-PAT-NO: 7084625
DOCUMENT-IDENTIFIER: US 7084625 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: August 1, 2006

PRIOR-PUBLICATION:

DOC-ID	DATE
US 20050127909 A1	June 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		US
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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☐ 6. Document ID: US 6844727 B2

L61: Entry 6 of 9 File: USPT Jan 18, 2005

US-PAT-NO: 6844727
DOCUMENT-IDENTIFIER: US 6844727 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303; 324/338, 343/788

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De

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7. Document ID: US 6580273 B2

L61: Entry 7 of 9 File: USPT Jun 17, 2003

US-PAT-NO: 6580273
DOCUMENT-IDENTIFIER: US 6580273 B2

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: June 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/300

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. De

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8. Document ID: US 6452388 B1

L61: Entry 8 of 9 File: USPT Sep 17, 2002

US-PAT-NO: 6452388
DOCUMENT-IDENTIFIER: US 6452388 B1

TITLE: Method and apparatus of using soft non-ferritic magnetic material in a nuclear magnetic resonance probe

DATE-ISSUED: September 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/309, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

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9. Document ID: US 6348792 B1

L61: Entry 9 of 9 File: USPT Feb 19, 2002

US-PAT-NO: 6348792
DOCUMENT-IDENTIFIER: US 6348792 B1

TITLE: Side-looking NMR probe for oil well logging

DATE-ISSUED: February 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beard; David	Houston	TX		
Reiderman; Arcady	Houston	TX		

US-CL-CURRENT: 324/303; 324/300, 324/307

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
ANTENNA	397782
ANTENNAS	95470
COIL	1326024
COILS	439974
PROBE	397662
PROBES	186685
WINDING	729911
WINDINGS	246991
RING	2511955
RINGS	705080
ANULUS	389
(L60 AND ((ANTENNA OR COIL OR PROBE OR WINDING OR RING OR ANULUS OR LOOP) SAME (((MAGNET OR MAGNETIC OR MAGNETICALLY) SAME (CORE OR CORED OR CORABLE OR CORING)) SAME((MAGNETOSTRICTIVE OR MAGNETOSTRICTION OR MAGNETO-RESTRICT$5 OR MAGNETORESTRICT$5) WITH (DAMPENING OR DAMP$4 OR CANCEL$7 OR NULL$4 OR INSULAT$4 OR LOW OR LOWER OR LOWERING OR REDUCED OR REDUCING OR REDUCE))))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	9

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 20050248341 A1

L62: Entry 1 of 3 File: PGPB Nov 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050248341
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050248341 A1

TITLE: Antenna core material for use in mwd resistivity measurements and d nmr measurements

PUBLICATION-DATE: November 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Kruspe, Thomas	Wienhausen	TX	DE
Reiderman, Arcady	Houston		US
Blanz, Martin	Celle		DE
Rottengatter, Peter	Celle		DE

US-CL-CURRENT: 324/303

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 2. Document ID: US 6844727 B2

L62: Entry 2 of 3 File: USPT Jan 18, 2005

US-PAT-NO: 6844727
DOCUMENT-IDENTIFIER: US 6844727 B2

TITLE: Method and apparatus of reducing ringing in a nuclear magnetic resonance probe

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kruspe; Thomas	Wienhausen			DE
Reiderman; Arcady	Houston	TX		
Blanz; Martin	Celle			DE
Rottengatter; Peter	Isernhagen			DE

US-CL-CURRENT: 324/303; 324/338, 343/788

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

☐ 3. Document ID: US 6452388 B1

L62: Entry 3 of 3 File: USPT Sep 17, 2002

US-PAT-NO: 6452388
DOCUMENT-IDENTIFIER: US 6452388 B1

TITLE: Method and apparatus of using soft non-ferritic magnetic material in a nuclear magnetic resonance probe

DATE-ISSUED: September 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reiderman; Arcady	Houston	TX		
Beard; David R.	Houston	TX		

US-CL-CURRENT: 324/303; 324/309, 324/318, 324/322

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

---

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
MAGNET	497290
MAGNETS	203489
MAGNETIC	1709016
MAGNETICS	15619
MAGNETICALLY	183802
MAGNETICALLIES	0
MAGNETICALLYS	1
CORE	1227264
CORES	205808
CORED	22527
COREDS	5
(L61 AND (((MAGNET OR MAGNETIC OR MAGNETICALLY) SAME (CORE OR CORED OR CORABLE OR CORING)) SAME (NONFERRITE OR NONFERRITIC$4 OR NON-FERRITE OR NON-FERRITIC$4) SAME (POWDER$5 OR GRAIN) SAME (SATURAT$4 WITH FLUX WITH	3

DENSITY))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.

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NPL STIC Search Feb/16th 2007

10/518125

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Databases Search History & Results

[File 2] INSPEC 1898-2006/Feb W3
[File 155] MEDLINE(R) 1951-2006/Feb 27
[File 5] Biosis Previews(R) 1969-2006/Feb W3
[File 6] NTIS 1964-2006/Feb W1 DSSSSSSS
[File 8] Ei Compendex(R) 1970-2006/Feb W3
[File 73] EMBASE 1974-2006/Feb 27[File 94] JICST-EPlus 1985-2006/Dec W1
[File 94] JICST-EPlus 1985-2006/Dec W2
[File 95] TEME-Technology & Management 1989-2006/Feb W4
[File 35] Dissertation Abs Online 1861-2006/Feb
[File 144] Pascal 1973-2006/Feb W1
[File 99] Wilson Appl. Sci & Tech Abs 1983-2006/Jan
[File 34] SciSearch(R) Cited Ref Sci 1990-2006/Feb W3
[File 434] SciSearch(R) Cited Ref Sci 1974-1989/Dec
[File 65] Inside Conferences 1993-2006/Feb W4
[File 162] Global Health 1983-2006/Jan
[File 164] Allied & Complementary Medicine 1984-2006/Feb
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[File 23] CSA Technology Research Database 1963-2006/Feb
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[File 103] Energy SciTec 1974-2006/Feb B2
[File 58] GeoArchive 1974-2005/Jun
[File 292] GEOBASE(TM) 1980-2006/Feb W4
[File 89] GeoRef 1785-2006/Feb B2
[File 239] Mathsci 1940-2006/Apr
[File 245] WATERNET(TM) 1971-2006Oct
[File 96] FLUIDEX 1972-2006/Aug
[File 61] Civil Engineering Abstracts. 1966-2007/Feb

Set	Items	Description
S1	15029230	S GEOLOG????? OR GEOGRAPH????? OR LAND OR SURFAC???? OR EARTH???
S2	17240851	S TOPOGRAPH?????? OR TOPOLOG???? OR LANDSCAP????? OR MOUNTAIN????? OR FORMAT????? OR TUNDRA OR TERRAIN OR AREA? ? OR PROFIL?????? OR DESERT OR CANYON OR VALLEY OR VALLIES
S3	10935150	S WELL()BORE OR BOREHOLE? ? OR BORE()HOLE OR WELL????? OR DOWN()HOLE? ? OR DOWNHOLE? ? OR WELLBORE? ?
S4	6578166	S B1 OR B()1 OR B()SUB()1 OR FIELD????(3N)MAP????? OR RADIO? ?(3N)FREQUENC????? OR (MAGNET?????? OR ELECTROMAGNET???? OR RF? ? OR ELECTRIC???? OR PULS????? OR REFOCUS???? OR IMAG?????)(3N)(FIELD???? OR POWER???? OR PULS????? OR SEQUENC????? OR EXCIT???? OR STIMULAT??????? OR SWITCH???? OR TRANSCEIV?????? OR SIGNAL????) OR SAR? ? OR SPECIFIC()ABSOR???????()RATE? ? OR R()F OR RF OR RADIOFREQUENC????? OR RFSP OR SSFP OR STEADY()STATE()FREE()PRECESSION OR FREE(3N)PRECESS????
S5	1655624	S MAGNET?????(3N)(CORE OR CORING OR ROD OR RODS OR BAR OR BARS) OR SOLENOID OR ELECTROMAGNET??????? OR ELECTRO()MAGNET????
S6	8879014	S ANTENNAE OR COIL???? OR WIRE? ? OR WIRING OR ANTENNA OR TRANSMI??????? OR TRANSCEIV????? OR RECEIV???? OR RADIO??? OR AERIAL OR WINDING
S7	78766	S MAGNETOSTRICT??????? OR MAGNET???(2N)(STRICT???? OR RESTRICT?????? OR DEFORM????? OR DEGRAD????? OR DETERIORAT????? OR DECLIN???? OR DEGENERAT???? OR BEND?????)
S8	34610613	S DAMP??????? OR NULL????????? OR ATTENUAT????? OR REDUC??????? OR CANCEL???? OR LOWER????? OR LOW OR MINIM????? OR DECREAS????? OR SUPPRES?????? OR ABAT??????? OR QUENCH????? OR REMOV?????
S9	2	S S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8
S10	2	RD (unique items)
S11	188735	S (EVALUAT??? OR ANALY???)(3N)(APPT OR DEVICE OR APPARATUS OR MECHANISM OR UNIT)
S12	0	S S11 AND S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S13	0	S S11 AND S1 AND S2 AND S3 AND S7

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2/16/2007 5:08:01 PM

S14	1047	S S11 AND (ELECTRICAL(2N)(PROPERTIES OR PARAMETER OR QUALIT??? OR ATTRIBUT????))
S15	0	S S14 AND S3 AND S5 AND S7 AND S8
S16	0	S S14 AND S7 AND S3
S17	19	S S3 AND S7 AND S11
S18	7	RD (unique items)
S19	389	S S7(3N)S8 AND (INTERNAL??? OR INTRINSIC???? OR INSIDE OR INNER OR INTERIOR INTEGRAT????)
S20	29	S S19 AND S3
S21	2	S S20 AND S5
S22	2	RD (unique items)
S23	1	S S20 AND S1 AND S2
S24	4	S S20 AND S1
S25	3	RD (unique items)
S26	2	S S20 AND S2
S27	2	RD (unique items)
S28	0	S S14 AND S19
S29	38	S S14 AND S5
S30	3	S S29 AND S3
S31	3	RD (unique items)
S32	21788	S S5 AND (METGLAS OR GLASS)
S33	1300	S S32 AND (POWDER???? OR GRANUL?? OR GRAIN?? OR PARTICULATE OR PARTICULE)
S34	4	S S33 AND S11
S35	4	RD (unique items)
S36	0	S S33 AND SATURATION()FLUX()DENSITY
S37	292	S S33 AND (PERMITTIVITY OR PERMEABILITY OR RESISTIVITY OR CONDUCTIVITY OR HYSTERESIS)
S38	8	S S37 AND S7
S39	7	RD (unique items)
S40	38	S S37 AND S3
S41	20	S S40 AND S4
S42	14	S S41 AND S6
S43	9	S S42 AND S1
S44	5	S S42 AND S2

10/518125

MA 2/16/2007

10/9/2 (Item 2 from file: 987) **Links**
TULSA (Petroleum Abs)

0001748147 **Petroleum Abstract No:** 793565

DEVELOPMENT OF A PRACTICAL EKL (ELECTROKINETIC LOGGING) SYSTEM

CLARKE, R; KOBAYASHI, G; MILLAR, J; TAKAHASHI, T; TOSHIOKA, T
GROUNDFLOW LTD; OYO CORP
43RD ANNU. SPWLA LOGGING SYMP. (Oiso, Japan, 6/2-5/2002) TRANS. pap. no.H, 2002. (12 pp; 8 refs)
2002
Language: ENGLISH
Document Type: MEETING PAPER TEXT; AT
Record Type: ABSTRACT
EKL can estimate soil and rock permeability by measuring electrokinetic signals. Electrokinetic signals occur when Biot fast P-waves intersect interfaces where hydrogeological properties (e.g., permeability, porosity, fluid conductivity, fluid viscosity, or ionic concentration) change. Such interfaces generate Biot slow P-waves, which decay rapidly and generate electrical signals. The EKL system measures these electrical signals to estimate the formation hydrogeological properties. The EKL sonde has a magnetostrictive source which emits acoustic waves with two fixed frequencies (ca 454 and 2,260 Hz) radially in all directions and two electrodes located at ca 3 cm and 33 cm apart from the source. Acoustic waves from the source are emitted continuously and electrical potentials generated by means of electrokinetic phenomena are measured at the electrodes. The pressure wave from the source propagates into the formation through the borehole water and generates electrokinetic signals in the permeable formation. The risetime of the generated electrokinetic signal is inversely proportional to the permeability of the formation. Field examples of the electrokinetic responses show good reproducibility and signal-to-noise ratio.
Primary Descriptor: SONIC LOGGING
Major Descriptors: ELASTIC WAVE; ELASTIC WAVE LOGGING; ELECTRIC POTENTIAL; ELECTRICITY; ELECTROKINETIC POTENTIAL; PERMEABILITY; PERMEABILITY (ROCK); PHYSICAL PROPERTY; SOUND WAVE; SOUND WAVE SOURCE; WAVE; WAVE SOURCE; WELL LOGGING; WELL LOGGING EQUIPMENT
Minor Descriptors: ANTENNA; APPARENT RESISTIVITY; BIOT THEORY; BOREHOLE; CHART; COMPARISON; COMPRESSIONAL WAVE; COMPRESSIONAL WAVE VELOCIT; CONNATE WATER; DATA; DIPOLE ; ELECTRICAL CONDUCTIVITY; ELECTRICAL EQUIPMENT; ELECTRICAL EXPLORATION; ELECTRICAL EXPLORATION EQ; ELECTRICAL PROPERTY; ELECTRODE; ELECTROKINETICS; ELECTROMAGNETIC WAVE; ELECTROMAGNETIC WAVE SRCE; ENGLISH; EQUATION; EXPLORATION; FLOW CAPACITY; FORMATION EVALUATION; FRACTURE CONDUCTIVITY; FRACTURE POROSITY; FREQUENCY; GEOLOGY; GEOPHYSICAL EQUIPMENT; GEOPHYSICAL EXPLORATION; GRAPH; HYDROLOGY; INSTRUMENT; INTERFACE; INTERPRETATION; KINETICS; KOZENY CARMEN EQUATION; LOW FREQUENCY; MAGNETIC RESONANCE; MAGNETOSTRICTION TRANSDUCR; MATHEMATICS; MEETING PAPER TEXT; MULTIPLEXING; NOISE; NUCLEAR LOGGING; NUCLEAR MAGNETIC LOGGING; NUCLEAR MAGNETIC RESONANCE; OPEN HOLE; POROSITY; POROSITY (ROCK); REPRODUCIBILITY; RESISTIVITY; RESONANCE; ROCK; ROCK PROPERTY; SEDIMENT (GEOLOGY); SIGNAL TO NOISE RATIO; SOIL (EARTH); SONDE; THEORY; TRANSDUCER; VELOCITY; WATER; WATER (SUBSURFACE); WAVE PROPERTY; WAVE VELOCITY; WAVEFORM; WELL LOGGING & SURVEYING; WELL LOGGING DATA
Subject Heading: WELL LOGGING & SURVEYING

10/518125

18/9/1 (Item 1 from file: 2) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

INSPEC

08052719 **INSPEC Abstract Number:** A2001-21-8170B-061, B2001-11-0590-061

Title: Evaluation of r-value of stainless steel sheets with electromagnetic acoustic transducer

Author Murayama, R.
Author Affiliation: Dept. of Intelligent Mech. Eng., Fukuoka Inst. of Technol., Japan

Journal: Journal of the Society of Materials Science, Japan vol.50, no.7 p. 778-82
Publisher: Soc. Mater. Sci. Japan ,
Publication Date: July 2001 **Country of Publication:** Japan
CODEN: ZARYAQ **ISSN:** 0514-5163
SICI: 0514-5163(200107)50:7L.778:EVSS;1-9
Material Identity Number: J214-2001-010

N/A TAF 2/16/2007

Language: Japanese **Document Type:** Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A Lamb wave-mode electromagnetic acoustic transducer (EMAT) which makes use of the Lorenz force and **magnetostrictive** effect is produced as a **device** to **evaluate** the r-value of stainless steel sheet. Correlation between fundamental characteristics of this device and r-value obtained from uniaxial tensile test is examined for stainless steel and low carbon steel sheets. It is confirmed that the use of this **device** enables the **evaluation** of the r-values of ferritic stainless and austenitic stainless steel sheets as **well** as low carbon steel sheets. It is also shown that the value of Delta r which gives the planar anisotropy of a sheet can be evaluated in good accuracy for the stainless steel sheets than for the low carbon steel sheet. (9 Refs)

Subfile: A B

Descriptors: stainless steel; surface acoustic waves; ultrasonic materials testing

Identifiers: ultrasonic materials testing; electromagnetic acoustic transducer; Lamb wave-mode electromagnetic acoustic transducer; EMAT; Lorenz force; **magnetostrictive** effect; ferritic stainless steel; austenitic stainless steel; nondestructive testing

Class Codes: A8170B (Nondestructive testing: acoustic methods); A4385G (Measurement by acoustic techniques); B0590 (Materials testing); B7820 (Sonic and ultrasonic applications)

Chemical Indexing:

Cr ss - Fe ss - C ss (Elements - 3)

10/518125

18/9/2 (Item 2 from file: 2) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

INSPEC

06123439 **INSPEC Abstract Number:** B9601-7230-028, C9601-3260B-010

Title: Development and analysis of a self-sensing magnetostrictive actuator design

Author Pratt, J.; Flatau, A.B.

Author Affiliation: Dept. of Aerosp. Eng. & Eng. Mech., Iowa State Univ., Ames, IA, USA

Journal: Journal of Intelligent Material Systems and Structures vol.6, no.5 p. 639-48

Publication Date: Sept. 1995 **Country of Publication:** USA

CODEN: JMSSER **ISSN:** 1045-389X

U.S. Copyright Clearance Center Code: 1045-389X/95/050639-10$10.00/0

N/A TAF
2/16/2007

Language: English **Document Type:** Journal Paper (JP)

Treatment: Practical (P)

Abstract: A self-sensing **magnetostrictive** actuator design based on a linear systems model of **magnetostrictive** transduction for Terfenol-D is developed and analyzed. Self-sensing, or the ability of a transducer to sense its own motion as it is being driven, has been demonstrated for electromechanical transducers such as moving voice coil loudspeakers and piezoelectric distributed moment actuators. In these devices, self-sensing was achieved by constructing a bridge circuit to extract a signal proportional to transducer motion even as the transducer was being driven. This approach is **analyzed** for a **magnetostrictive device**. Working from coupled electromechanical **magnetostrictive** transduction equations found in the literature, the concept of the transducer's "blocked" electrical impedance and motional impedance are developed, and a bridge design suggested and tested. However, results presented in this paper will show that **magnetostrictive** transduction is inherently nonlinear, and does not, therefore, lend itself **well** to the traditional bridge circuit approach to self-sensing. (12 Refs)

Subfile: B C

Descriptors: dysprosium alloys; electric actuators; iron alloys; **magnetostrictive** devices; terbium alloys; transducers

Identifiers: self-sensing **magnetostrictive** actuator design; **magnetostrictive** transduction; Terfenol-D; moving voice coil loudspeakers; piezoelectric distributed moment actuators; bridge circuit; transducer motion; coupled electromechanical **magnetostrictive** transduction equations; blocked electrical impedance; motional impedance; FeTbDy

Class Codes: B7230 (Sensing devices and transducers); B3120J (Magneto-acoustic, magnetoresistive, magnetostrictive and magnetostatic wave devices); B8380 (Control gear and apparatus); C3260B (Electric actuators and final control equipment); C3240 (Transducers and sensing devices)

Chemical Indexing:

FeTbDy ss - Dy ss - Fe ss - Tb ss (Elements - 3)

10/518125

18/9/3 (Item 3 from file: 2) Links

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

INSPEC

04925638 **INSPEC Abstract Number:** A91093222

Title: Physical mechanism of magnetic-field-induced shift of the resonance frequency of a composite ferrite-piezoelectric-ceramic resonator

Author Gelyasin, A.E.; Laletin, V.M.
Author Affiliation: Technol. Inst. of Light Ind., Vitebsk, USSR

Journal: Pis'ma v Zhurnal Tekhnicheskoi Fizika vol.16, no.15-16 p. 26-8

NA TAC= 2/16/2007

Publication Date: Aug. 1990 **Country of Publication:** USSR
CODEN: PZTFDD **ISSN:** 0320-0108
Translated in: Soviet Technical Physics Letters vol.16, no.8 **p.** 572-3
Publication Date: Aug. 1990 **Country of Publication:** USA
CODEN: STPLD2 **ISSN:** 0360-120X
U.S. Copyright Clearance Center Code: 0360-120X/90/080572-02$02.00

Language: English **Document Type:** Journal Paper (JP)
Treatment: Experimental (X)

Abstract: The nature of the effect of a magnetic field on the piezoelectric resonant frequency of a composite resonator is described, in general, by the following scheme: field to deformation of the ferrite phase to deformation of the piezoelectric phase to shift of the piezoelectric resonant frequency. The ferrite phase can be deformed because of **magnetostriction** as **well** as other related phenomena. They **analyze** the most probable **mechanism** of the effect of a magnetic field on the piezoelectric resonant frequency. (4 Refs)

Subfile: A

Descriptors: ceramics; ferrites; **magnetostriction**; piezoelectricity

Identifiers: magnetic-field-induced shift; resonance frequency; composite ferrite-piezoelectric-ceramic resonator; ferrite phase; **magnetostriction**

Class Codes: A7580 (Magnetomechanical and magnetoelectric effects, magnetostriction)

18/9/4 (Item 1 from file: 73) Links
Fulltext available through: American Institute of Physics USPTO Full Text Retrieval Options
SCIENCEDIRECT
EMBASE

06206988 **EMBASE No:** 1995240395
An ultrasonic motor using low-frequency magnetostrictive excitation for continuous and stepwise angular rotation

Saksena T.K.; Chandra M.
Ultrasonics Section, National Physical Laboratory,New Delhi-110012 India
Journal of the Acoustical Society of America (J. ACOUST. SOC. AM.) (United States) 1995 , 98/2 I (981-987)
CODEN: JASMA **ISSN:** 0001-4966
Document Type: Journal ; Article
Language: ENGLISH **Summary Language:** ENGLISH

A new design for an ultrasonic motor operating at a frequency of about 14.5 kHz for generating continuous as **well** as stepwise angular rotation has been developed. The device uses a **magnetostrictive** ferrite transducer and a single power amplifier for its operation. A possible mechanism for the operation of the ultrasonic motor has been suggested. The variation of the speed of rotation as a function of frequency, excitation voltage, and load has been studied. The measurement of the performance characteristics reveal that the ultrasonic motor is capable of giving 100 rpm at 34.6-W electric output. The rpm of the rotating disk can be controlled by a slight adjustment of the frequency of the rf signal to the driving transducer. The load capability of the device is 1 kg. Using a tone burst of 10 ms, an angular step of 1.8 deg has been realized.

MEDICAL DESCRIPTORS:
* excitation; *ultrasound
article; **device**; frequency **analysis**; nonhuman; piezoelectricity; priority journal; transducer; vibration
SECTION HEADINGS:
011 Otorhinolaryngology

NA TAF 2/16/2007

18/9/5 (Item 1 from file: 144) **Links**
Pascal

16647351 PASCAL No.: 04-0298132

Transient modeling of coupled magnetoelastic problems in electric machines
2002 IEEE Power Engineering Society summer meeting : Chicago IL, 21-25 July 2002

MOHAMMED O A; CALVERT T E; PETERSEN L; MCCONNELL R
Department of Electrical & Computer Engineering, Florida International University, Miami, FL 33174, United States; Naval Surface Warfare Center, Carderock Division, Machinery R&D Directorate, Philadelphia, PA, United States
IEEE Power Engineering Society, United States
IEEE Power Engineering Society. Summer meeting (Chicago IL USA) 2002-07-21
2002 281-287
Publisher: IEEE, Piscataway NJ
ISBN: 0-7803-7518-1 Availability: INIST-Y 37994; 354000117852770500
No. of Refs.: 9 ref.
Document Type: C (Conference Proceedings) ; A (Analytic)
Country of Publication: United States
Language: English
This paper investigates some aspects on noise and vibrations of electrical machinery based upon the coupling between the magnetic field and the mechanical deformation in the stator. This coupling is typically considered by using reluctance forces. Since the deformations occurring are small compared to the machine's dimensions, there is no feedback to the magnetic system in numerical models. However, stator deformations are caused not only by reluctance forces, but also by **magnetostriction** effect of the stator iron. **Magnetostriction** is one of the main causes of noise in electromagnetic systems particularly when the flux density is above 1.5 Teslas. Here, we develope numerical models that incorporate **magnetostriction** effects and all other possible electromechanical forces and related material interactions. **Magnetostriction** presents a problem at all levels of frequencies. At frequencies, particularly 2E, **magnetostrictive** forces are undesirable and can be large as **well** as generate acoustic noise, which can impede the system's performance. The **magnetostrictive** deformations can be calculated based upon the magnetic field. If the **magnetostrictive** deformations are slightly higher than the magnitude of the deformations caused by the reluctance forces, there will be a need for feedback to the magnetic system. In order to account for this effect, the **magnetostriction** characteristic of iron 1(H) is needed. The dependency of permeability on mechanical stress must be accounted for and be built into a strong coupling scheme. Implementation results on a 2-hp, permanent magnet motor indicate that **magnetostrictive** forces are

significant and must be accounted for in the electromagnetic system's design stage.

English Descriptors: Mathematical model; Magnetoelastic effect; Electric machine; Magnetic coupling; **Magnetic** field; Mechanical **deformation**; Stator; Comparative study; Feedback regulation; **Magnetostriction**; Electromagnetic noise; Electromagnetic device; Flux density; Electromechanical system; **Magnetostrictive device**; Acoustic noise; Performance **evaluation**; Permeability; Mechanical stress; Implementation; Permanent magnet motors

French Descriptors: Modele mathematique; Effet magnetoelastique; Machine electrique; Accouplement magnetique; Champ magnetique; Deformation mecanique; Stator; Etude comparative; Retroaction; **Magnetostriction**; Bruit electromagnetique; Dispositif electromagnetique; Densite flux; Systeme electromecanique; Dispositif **magnetostrictif**; Bruit acoustique; Evaluation performance; Permeabilite; Contrainte mecanique; Implementation; Moteur magnetoelectrique

MA TAF 2/14/2007

Classification Codes: 001D05D

10/518125

18/9/6 (Item 1 from file: 987) **Links**

TULSA (Petroleum Abs)

0001456673 **Petroleum Abstract No:** 502091

PUMPING APPARATUS AND PUMP CONTROL APPARATUS AND METHOD

Author (Inventor): ESLINGER, D M
Patent Assignee: HALLIBURTON CO
Patent Information: U.S. 4,990,058, c. 2/5/91, f. 11/28/89 (Appl. 442,031) (F04B-049/00). (17 pp; 17 claims)
Patent (Number Kind, Date): US 4990058 , 19910205
Application (Number, Date): US 442031, 19891128
1991
Publication Year: 1991
IPC Code: F04B-049/00
Language: ENGLISH
Document Type: PATENT; P
Record Type: ABSTRACT

A pumping apparatus comprises a fluid end cylinder carrying a double-acting piston that is reciprocated by a hydraulic servo actuator to provide an expanded flow range ability for metering fluids. The actuator comprises (1) a hydraulic cylinder carrying a drive piston connected to the fluid end piston, (2) a servo valve, (3) a position transducer, and (4) a microprocessor-based controller. The controller is programed to accommodate acceleration and deceleration of the extend and retract phases of a pump cycle to maintain constant average flow rate out of the fluid end. A control apparatus for controlling a pump and a related method are also described.

Primary Descriptor: RECIPROCATING PUMP

Major Descriptors: AUTOMATIC CONTROL; BLENDING; CONTROL; FRACTURING; FRACTURING FLUID; HYDRAULIC FRACTURING; MEASURING; METERING; MIXING; POSITIVE DISPLACEMENT PUMP; PUMP; TESTING

Minor Descriptors: (P) USA; ACID; ACIDIZING; ADDITIVE; APPROXIMATION; AUTOMATION; BLENDER; BLOCK DIAGRAM; CALCULATING; CEMENTING; CHART; CHEMICAL PROCESS; COMPOUND; COMPUTER; COMPUTER CONTROL; COMPUTING; CONTROL EQUIPMENT; CONTROL VALVE; DATA; DETECTOR; DIAGRAM; ENGINEERING DRAWING; ENGLISH; EQUATION; EQUIPMENT LAYOUT; FEEDBACK; FLOW CHART; FLOW CONTROL; FLOW MEASURING; FLUID FLOW; FLUID FLOW EQUATION; FRACTURING FLUID ADDITIVE; GRAPH; HALLIBURTON CO; INSTRUMENT; MAGNETIC DETECTOR; **MAGNETOSTRICTION** EFFECT; **MAGNETOSTRICTION** TRANSDUCR; MATHEMATICAL **ANALYSIS**; MATHEMATICS; METERING **UNIT**; MICROPROCESSOR; MIXER; PATENT; PISTON; PUMPING; SERVOMECHANISM; SIGNAL; TABLE (DATA); TRANSDUCER; VALVE; VOLUME; **WELL** COMPLETION SERVICING & WORKOVER; **WELL** COMPLETION; **WELL** STIMULATION; **WELL** WORKOVER

Subject Heading: **WELL** COMPLETION SERVICING & WORKOVER

NA TAP 2/16/2007

18/9/7 (Item 1 from file: 95) **Links**
Fulltext available through: ScienceDirect (Elsevier) USPTO Full Text Retrieval Options SCIENCEDIRECT

01665524 20020804459

Magnetostrictive pulse-echo device for non-destructive evaluation of cylindrical steel materials using longitudinal guided waves

(Magnetostriktive Impuls-Echo-Anordnung zur zerstoerungsfreien Bewertung von zylinderfoermigen Stahlmaterialien mit longitudinalen gefuehrten **Wellen**)

Laguerre, L; Aime, J-C; Brissaud, M
Lab. Central des Ponts et Chaussees, Bouguenais, F; INSA Inst. Nat. des Sci. Appl. de Lyon, Villeurbanne, F

Ultrasonics, v39, n7, pp503-514 , 2002
Document type: journal article **Language:** English
Record type: Abstract
ISSN: 0041-624X

Abstract:
An Rundstaeben und Stabbuendeln, wie sie in der Bauindustrie verwendet werden, wurden mit einem labormaessigen Ultraschall-Geraetesystem Experimente zum Fehlernachweis durchgefuehrt. Die Anregung und der Empfang der Ultraschallimpulse erfolgte mit elektromagnetischen Ultraschallwandlern (EMUs) unter Ausnutzung des direkten bzw. inversen magnetostriktiven Effekts. Das hochfrequente magnetische Wechselfeld wurde von einer das Stabmaterial umgebenden Spule (Windungszahl 15, Laenge 10 mm, Innendurchmesser 30 mm) erzeugt. Diese HF-Spule wurde von einer zweiten Spule (Windungszahl 900, Laenge 225 mm, innerer Durchmesser 70 mm) umschlossen, welche das statische Magnetfeld aufbaut. Die HF-Sende-Spule wurde mit Sinusbursts, die nach einer Gauss-Funktion amplitudengewichtet wurden, angesteuert. Die Burst-Mittenfrequenzen lagen unterhalb von 500 kHz. In den Experimenten wurden systematisch die Staerke des statischen Feldes sowie die Amplitude und die Frequenz des Wechselfeldes variiert, um zum einen den Sende-Empfangswirkungsgrad zu optimieren und zum anderen moeglichst eine gute Linearitaet des Arbeitsbereichs sicher zu stellen. Zur Verbesserung des Signal-Stoer-Abstandes wurde eine Puls-Kompressionstechnik auf die Empfangssignale angewendet. (Gebhardt, W.)

Descriptors: NDT--NONDESTRUCTIVE TESTING; ULTRASONIC TESTING; ROUND TEST PIECE; MERCHANT BAR; TEST DEVICES; LABORATORY TEST; DEFECT DETECTION; ELECTRODYNAMICAL CONVERTERS
Identifiers: Ultraschallpruefung; Rundmaterial; Fehlernachweis; Stab

10/518125

22/9/1 (Item 1 from file: 987) **Links**

TULSA (Petroleum Abs)

0001787304 **Petroleum Abstract No:** 832722

ANTENNA CORE MATERIAL FOR USE IN MWD [MEASURING-WHILE-DRILLING] RESISTIVITY MEASUREMENTS AND NMR [NUCLEAR MAGNETIC RESONANCE] MEASUREMENTS

Author (Inventor): BLANZ, M; KRUSPE, T; REIDERMAN, A; ROTTENGATTER, P
Patent Assignee: BAKER HUGHES INC
Patent Information: World 04/001,436A2, p. 12/31/2003, f. 6/17/2003, pr. U.S. 6/20/2002 (Appl. 177,618) (G01R-033/44). (37 pp; 50 claims)
Patent (Number Kind, Date): WO 04/001436 A2, 20031231
Application (Number, Date): WO, 20030617
Priority (Number, Date): US 177618, 20020620
2003
Publication Year: 2003
IPC Code: G01R-033/44
Language: ENGLISH
Document Type: PATENT; P
Record Type: ABSTRACT

Applicant's own work
N/A TAF 2/16/2007

The use of a material is described having a high **internal magnetostrictive damping** and/or using material with explicitly **low magnetostriction** as an antenna core material for NMR and resistivity devices in a **borehole**. The probe's structural geometry facilitates the use of material, which has a relatively low magnetic permeability. The **well** logging apparatus has a powdered soft **magnetic** material **core** as a flux concentrator for sensing NMR properties within earth formations adjacent a **wellbore**.

Primary Descriptor: ANTENNA
Major Descriptors: CONSTRUCTION MATERIAL; ELECTRICAL EQUIPMENT; LOGGING WHILE DRILLING; MAGNET ; MAGNETOSTRICTION EFFECT; NUCLEAR LOGGING; NUCLEAR MAGNETIC LOGGING; **WELL** LOGGING
Minor Descriptors: (P) WORLD; ALLOY; AMORPHOUS; BAKER HUGHES INC; BUSINESS OPERATION; CHART; COMPOUND; DAMPING; DEFORMATION; DETECTION; DETECTOR; DIAGRAM; DIELECTRIC PROPERTY; DRILLING (**WELL**); ELECTRICAL PROPERTY; **ELECTROMAGNETIC** FIELD; **ELECTROMAGNETIC** WAVE; **ELECTROMAGNETISM**; ELECTRONIC EQUIPMENT; ENGLISH; EQUATION; EQUIPMENT LAYOUT; FERROUS ALLOY; FORMATION EVALUATION; FORMING; FREQUENCY; GRAPH; HARDNESS; HYSTERESIS; INDUCTANCE COIL; INSTRUMENT; INTERPRETATION; IRON OXIDE; MAGNETIC DETECTOR; MAGNETIC FIELD; MAGNETIC PERMEABILITY; MAGNETIC RESONANCE; MAGNETISM; MANUFACTURING; MATHEMATICS; MECHANICAL PROPERTY; METAL; MOLDING; MOLECULAR STRUCTURE; NUCLEAR MAGNETIC RESONANCE; OXIDE; PARTICLE SIZE; PATENT; PERMEABILITY; PHYSICAL PROPERTY; RADIO WAVE; RECEIVER (ELECTRONIC); REMOTE SENSING; REMOTE SENSOR; RESONANCE; STAINLESS STEEL; STEEL; STRUCTURE; TRANSMITTER; WAVE; WAVE FREQUENCY; **WELL** LOG ; **WELL** LOGGING & SURVEYING; **WELLBORE** DIAGRAM
Subject Heading: **WELL** LOGGING & SURVEYING

10/518125

22/9/2 (Item 1 from file: 103) **Links**
Energy SciTec

04107463 EDB-97-016167
Title: Quench characteristics of 1-m-long SSC model dipole magnets
Author(s): Hosoyama, K.; Kabe, A.; Hara, K.; Nakai, H. (KEK-National Lab. for High Energy Physics, Tsukuba, Ibaraki (Japan)) (and others)
Title: **Advances in cryogenic engineering. Volume 41, Part A B**
Author(s)/Editor(s): Kittel, P. (ed.)
Conference Title: 1996 Cryogenic engineering conference and international cryogenic materials conference
Conference Location: Columbus, OH (United States) **Conference Date:** 17-21 Jul 1995
Publisher: New York, NY (United States) Plenum Press

Publication Date: 1996 p 359-366 (2037 p)
Report Number(s): CONF-950722--
Document Type: Analytic of a Book; Conference Literature
Language: English
Journal Announcement: EDB9703
Availability: Plenum Press Corp., 233 Spring Street, New York, NY 10013 (United States)
Subfile: ETD (Energy Technology Data Exchange); INS (US Atomindex input) . IIA (DOE contractor)
US DOE Project/NonDOE Project: NP
Country of Origin: Japan
Country of Publication: United States
Abstract: A series of fifteen 5-cm-aperture, 1-m-long SSC model dipole magnets with various types of end design and cable have been designed and fabricated at National Laboratory for High Energy Physics (KEK). The ramp-rate-dependent quench tests of the magnets KEKNo.3 to No.15 were performed in a 4.2-K vertical cryostat. A ramp-rate-dependent test of the magnet KEKNo.6 was also performed in 1.7-K pressurized superfluid helium. Special ramp tests so called [open quotes]heating[close quotes] and [open quotes]cooling[close quotes] experiments were also performed on the magnet KEKNo.10, as **well** as heat induced quench tests using the spot heaters installed in midplane of **inner** coils of the magnets KEKNo.7 and No.15 and in the splice part of the magnet KEKNo.13Y.
Major Descriptors: *BEAM BENDING MAGNETS -- PERFORMANCE TESTING; *BEAM **BENDING MAGNETS** -- **QUENCHING**
Descriptors: SUPERCONDUCTING MAGNETS; SUPERCONDUCTING SUPER COLLIDER
Broader Terms: ACCELERATORS; CYCLIC ACCELERATORS; ELECTRICAL EQUIPMENT; **ELECTROMAGNETS**; EQUIPMENT; MAGNETS; STORAGE RINGS; SUPERCONDUCTING DEVICES; SYNCHROTRONS; TESTING
Subject Categories: 430300* -- Particle Accelerators -- Auxiliaries & Components
INIS Subject Categories: E1633* -- Accelerators -- Other accelerator components

N/A TAF 2/16/2007

23/9/1 (Item 1 from file: 987) **Links**
TULSA (Petroleum Abs)

0001787304 **Petroleum Abstract No:** 832722

ANTENNA CORE MATERIAL FOR USE IN MWD [MEASURING-WHILE-DRILLING] RESISTIVITY MEASUREMENTS AND NMR [NUCLEAR MAGNETIC RESONANCE] MEASUREMENTS

Author (Inventor): BLANZ, M; KRUSPE, T; REIDERMAN, A; ROTTENGATTER, P
Patent Assignee: BAKER HUGHES INC
Patent Information: World 04/001,436A2, p. 12/31/2003, f. 6/17/2003, pr. U.S. 6/20/2002 (Appl. 177,618) (G01R-033/44). (37 pp; 50 claims)
Patent (Number Kind, Date): WO 04/001436 A2, 20031231
Application (Number, Date): WO, 20030617
Priority (Number, Date): US 177618, 20020620
2003
Publication Year: 2003
IPC Code: G01R-033/44
Language: ENGLISH
Document Type: PATENT; P
Record Type: ABSTRACT

Applicants own work
TD MA TAF 2/16/2007

The use of a material is described having a high **internal magnetostrictive damping** and/or using material with explicitly **low magnetostriction** as an antenna core material for NMR and resistivity devices in a **borehole**. The probe's structural geometry facilitates the use of material, which has a relatively low magnetic permeability. The **well** logging apparatus has a powdered soft magnetic material core as a flux concentrator for sensing NMR properties within **earth formations** adjacent a **wellbore** .

Primary Descriptor: ANTENNA
Major Descriptors: CONSTRUCTION MATERIAL; ELECTRICAL EQUIPMENT; LOGGING WHILE DRILLING; MAGNET ; MAGNETOSTRICTION EFFECT; NUCLEAR LOGGING; NUCLEAR MAGNETIC LOGGING; **WELL** LOGGING
Minor Descriptors: (P) WORLD; ALLOY; AMORPHOUS; BAKER HUGHES INC; BUSINESS OPERATION; CHART; COMPOUND; DAMPING; DEFORMATION; DETECTION; DETECTOR; DIAGRAM; DIELECTRIC PROPERTY; DRILLING (**WELL**); ELECTRICAL PROPERTY; ELECTROMAGNETIC FIELD; ELECTROMAGNETIC WAVE; ELECTROMAGNETISM; ELECTRONIC EQUIPMENT; ENGLISH; EQUATION; EQUIPMENT LAYOUT; FERROUS ALLOY; **FORMATION** EVALUATION; FORMING; FREQUENCY; GRAPH; HARDNESS; HYSTERESIS; INDUCTANCE COIL; INSTRUMENT; INTERPRETATION; IRON OXIDE; MAGNETIC DETECTOR; MAGNETIC FIELD; MAGNETIC PERMEABILITY; MAGNETIC RESONANCE; MAGNETISM; MANUFACTURING; MATHEMATICS; MECHANICAL PROPERTY; METAL; MOLDING; MOLECULAR STRUCTURE; NUCLEAR MAGNETIC RESONANCE; OXIDE; PARTICLE SIZE; PATENT; PERMEABILITY; PHYSICAL PROPERTY; RADIO WAVE; RECEIVER (ELECTRONIC); REMOTE SENSING; REMOTE SENSOR; RESONANCE; STAINLESS STEEL; STEEL; STRUCTURE; TRANSMITTER; WAVE; WAVE FREQUENCY; **WELL** LOG; **WELL** LOGGING & SURVEYING; **WELLBORE** DIAGRAM
Subject Heading: **WELL** LOGGING & SURVEYING

10/518125

25/9/1 (Item 1 from file: 23) **Links**

Fulltext available through: Institute of Electrical and Electronics Engineers USPTO Full Text Retrieval Options SCIENCEDIRECT

CSA Technology Research Database

0007710227 IP Accession No: 200610-33-43229

Strain-induced anisotropy in amorphous alloys and the effect of toroid diameter on magnetic properties

Becker, J

IEEE Transactions on Magnetics , v 15 , n 6 , p 1939-1945 , Nov. 1979
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Publisher: Institute of Electrical and Electronics Engineers, Inc. , 445Hoes Ln , Piscataway , NJ , 08854-1331
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Record Type: Abstract
Language: English
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NA TAP 2/16/2007

Abstract:
The magnetic properties of toroids wound from amorphous Fe-B-Si alloy ribbons has been examined as a function of toroid diameter and for ribbon widths from 0.1 cm to 2.5 cm. For the smallest ribbon widths, as the diameter decreased from 20 cm to 1 cm, the magnetic coercivity before annealing increased by a factor of ten and the remanence-to-saturation ratio decreased from ~0.7 to less than 0.4. After annealing in a field, the coercivity still increased with decreasing diameter by a factor of ten and the ratio of remanence-to-saturation dropped from ~0.9 to ~0.45. The losses after annealing similarly increased by a factor of ten and the permeability decreased. These lowest losses, obtained from large diameter toroids, are below those of the best commercial alloys (Supermalloy, 4-79 Mo-Permalloy, and Deltamax) and are **well** below any previously reported amorphous alloy. Toroids made from wider tapes, 1 cm and 2.5 cm in width, of similar Fe-B-Si compositions, were found to have properties essentially independent of their diameter. This difference in behavior between narrow and wide tapes can be understood on the basis of their differences in strain distribution. The approach to saturation after annealing was found to improve with increasing nickel in the amorphous alloys Fe(x)Ni(80-x)B(20). This is attributed to the **decrease** in **magnetostriction** which **decreased** the anisotropy arising from strain induced ordering. This assumption was confirmed when it was noted that the approach to saturation became much easier when the **inner** half of the thickness of an annealed toroid tape was etched away removing material with annealed in strain induced ordering. The impairment in properties of toroids with decrease in diameter is thus attributed to the increase in the strain induced ordering anisotropy. In order to eliminate the effect of toroid diameter on the magnetic properties we wound the toroids with sufficient tension to overcome the compressive forces developed in the tapes due to their radius of curvature. Rather than improving the properties, winding with tension significantly deteriorated the properties. This is believed to be due to the radial forces introduced by the winding tension. The effects- of tensional loads and of compressive loads on the **surface** of straight ribbons were studied and confirmed the results obtained in the toroids.

Descriptors: Toroids; Annealing; Ribbons; Magnetic properties; Amorphous alloys; Metallic glasses; Order disorder; Strain; Anisotropy; Saturation; Winding; Loads (forces); Coercive force; Coercivity; Iron; Molybdenum base alloys; Strain distribution; Permeability; Ferrous alloys; Impairment
Subj Catg: 33, Electrical and Magnetic Phenomena

25/9/2 (Item 1 from file: 987) **Links**
TULSA (Petroleum Abs)

0001787304 **Petroleum Abstract No:** 832722

ANTENNA CORE MATERIAL FOR USE IN MWD [MEASURING-WHILE-DRILLING] RESISTIVITY MEASUREMENTS AND NMR [NUCLEAR MAGNETIC RESONANCE] MEASUREMENTS

Author (Inventor): BLANZ, M; KRUSPE, T; REIDERMAN, A; ROTTENGATTER, P
Patent Assignee: BAKER HUGHES INC
Patent Information: World 04/001,436A2, p. 12/31/2003, f. 6/17/2003, pr. U.S. 6/20/2002 (Appl. 177,618) (G01R-033/44). (37 pp; 50 claims)
Patent (Number Kind, Date): WO 04/001436 A2, 20031231
Application (Number, Date): WO, 20030617
Priority (Number, Date): US 177618, 20020620
2003
Publication Year: 2003
IPC Code: G01R-033/44
Language: ENGLISH
Document Type: PATENT; P
Record Type: ABSTRACT

N/A Appears dn work TAK
2/16/2007

The use of a material is described having a high **internal magnetostrictive damping** and/or using material with explicitly **low magnetostriction** as an antenna core material for NMR and resistivity devices in a **borehole**. The probe's structural geometry facilitates the use of material, which has a relatively low magnetic permeability. The **well** logging apparatus has a powdered soft magnetic material core as a flux concentrator for sensing NMR properties within **earth** formations adjacent a **wellbore**.

Primary Descriptor: ANTENNA
Major Descriptors: CONSTRUCTION MATERIAL; ELECTRICAL EQUIPMENT; LOGGING WHILE DRILLING; MAGNET ; MAGNETOSTRICTION EFFECT; NUCLEAR LOGGING; NUCLEAR MAGNETIC LOGGING; **WELL** LOGGING
Minor Descriptors: (P) WORLD; ALLOY; AMORPHOUS; BAKER HUGHES INC; BUSINESS OPERATION; CHART; COMPOUND; DAMPING; DEFORMATION; DETECTION; DETECTOR; DIAGRAM; DIELECTRIC PROPERTY; DRILLING (**WELL**); ELECTRICAL PROPERTY; ELECTROMAGNETIC FIELD; ELECTROMAGNETIC WAVE; ELECTROMAGNETISM; ELECTRONIC EQUIPMENT; ENGLISH; EQUATION; EQUIPMENT LAYOUT; FERROUS ALLOY; FORMATION EVALUATION; FORMING; FREQUENCY; GRAPH; HARDNESS; HYSTERESIS; INDUCTANCE COIL; INSTRUMENT; INTERPRETATION; IRON OXIDE; MAGNETIC DETECTOR; MAGNETIC FIELD; MAGNETIC PERMEABILITY; MAGNETIC RESONANCE; MAGNETISM; MANUFACTURING; MATHEMATICS; MECHANICAL PROPERTY; METAL; MOLDING; MOLECULAR STRUCTURE; NUCLEAR MAGNETIC RESONANCE; OXIDE; PARTICLE SIZE; PATENT; PERMEABILITY; PHYSICAL PROPERTY; RADIO WAVE; RECEIVER (ELECTRONIC); REMOTE SENSING; REMOTE SENSOR; RESONANCE; STAINLESS STEEL; STEEL; STRUCTURE; TRANSMITTER; WAVE; WAVE FREQUENCY; **WELL** LOG; **WELL** LOGGING & SURVEYING; **WELLBORE** DIAGRAM
Subject Heading: **WELL** LOGGING & SURVEYING

25/9/3 (Item 1 from file: 292) **Links**
GEOBASE(TM)

00105414 **Supplier Number** 0424344

Theoretical analysis of thermomagnetic properties, low- temperature hysteresis and domain structure of titanomagnetites.

Clark D.A.; Schmidt P.W.
Address: CSIRO, Div of Min Phys, PO Box 136, N Ryde, NSW 2113, Australia.
Physics of the Earth & Planetary Interiors , 30/4 (300-316) , 1982
Document Type: Journal
Languages: English
Figures: 5 figs, table, 51 refs.

We have examined theoretically the effects of thermal agitation on the low- and high-field thermomagnetic curves and find that observed Curie temperatures in general represent an **intrinsic** property of the magnetic mineral present, rather than reflecting thermal agitation. The high coercive force and relative remanence at low temperatures for titanomagnetites having x >0.5 can be explained on the basis of the interaction of domain walls with crystal defects when the large increases in magnetocrystalline anisotropy and **magnetostriction** with **decreasing** temperature are taken into account. We discuss the evidence for the existence of domain walls in coarse-grained unlvospinel-rich titanomagnetites and conclude that multidomain structure is **well** established. It is also shown that fine titanomagnetite grains may have more than one blocking temperature. In any temperature interval for which superparamagnetic grains are present they will disproportionately influence susceptibility and low-field hysteresis.-from Authors

Classification Code And Description:
72.10 (STRUCTURAL **GEOLOGY** AND TECTONICS)
72.11 (GEOPHYSICS)
72.12 (SEISMOLOGY)

N/A TAF 2/16/2007

Record History:
COMPLETED RECORD - January 1, 1983

10/518125

27/9/1 (Item 1 from file: 987) **Links**
TULSA (Petroleum Abs)

0001787304 **Petroleum Abstract No:** 832722

ANTENNA CORE MATERIAL FOR USE IN MWD [MEASURING-WHILE-DRILLING] RESISTIVITY MEASUREMENTS AND NMR [NUCLEAR MAGNETIC RESONANCE] MEASUREMENTS

Author (Inventor): BLANZ, M; KRUSPE, T; REIDERMAN, A; ROTTENGATTER, P
Patent Assignee: BAKER HUGHES INC
Patent Information: World 04/001,436A2, p. 12/31/2003, f. 6/17/2003, pr. U.S. 6/20/2002 (Appl. 177,618) (G01R-033/44). (37 pp; 50 claims)
Patent (Number Kind, Date): WO 04/001436 A2, 20031231
Application (Number, Date): WO, 20030617
Priority (Number, Date): US 177618, 20020620
2003
Publication Year: 2003
IPC Code: G01R-033/44
Language: ENGLISH
Document Type: PATENT; P
Record Type: ABSTRACT

N/A Applicant's own Work TAF
2/16/2007

The use of a material is described having a high **internal magnetostrictive damping** and/or using material with explicitly **low magnetostriction** as an antenna core material for NMR and resistivity devices in a **borehole**. The probe's structural geometry facilitates the use of material, which has a relatively low magnetic permeability. The **well** logging apparatus has a powdered soft magnetic material core as a flux concentrator for sensing NMR properties within earth **formations** adjacent a **wellbore**.

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Major Descriptors: CONSTRUCTION MATERIAL; ELECTRICAL EQUIPMENT; LOGGING WHILE DRILLING; MAGNET ; MAGNETOSTRICTION EFFECT; NUCLEAR LOGGING; NUCLEAR MAGNETIC LOGGING; **WELL** LOGGING
Minor Descriptors: (P) WORLD; ALLOY; AMORPHOUS; BAKER HUGHES INC; BUSINESS OPERATION; CHART; COMPOUND; DAMPING; DEFORMATION; DETECTION; DETECTOR; DIAGRAM; DIELECTRIC PROPERTY; DRILLING (**WELL**); ELECTRICAL PROPERTY; ELECTROMAGNETIC FIELD; ELECTROMAGNETIC WAVE; ELECTROMAGNETISM; ELECTRONIC EQUIPMENT; ENGLISH; EQUATION; EQUIPMENT LAYOUT; FERROUS ALLOY; **FORMATION** EVALUATION; FORMING; FREQUENCY; GRAPH; HARDNESS; HYSTERESIS; INDUCTANCE COIL; INSTRUMENT; INTERPRETATION; IRON OXIDE; MAGNETIC DETECTOR; MAGNETIC FIELD; MAGNETIC PERMEABILITY; MAGNETIC RESONANCE; MAGNETISM; MANUFACTURING; MATHEMATICS; MECHANICAL PROPERTY; METAL; MOLDING; MOLECULAR STRUCTURE; NUCLEAR MAGNETIC RESONANCE; OXIDE; PARTICLE SIZE; PATENT; PERMEABILITY; PHYSICAL PROPERTY; RADIO WAVE; RECEIVER (ELECTRONIC); REMOTE SENSING; REMOTE SENSOR; RESONANCE; STAINLESS STEEL; STEEL; STRUCTURE; TRANSMITTER; WAVE; WAVE FREQUENCY; **WELL** LOG; **WELL** LOGGING & SURVEYING; **WELLBORE** DIAGRAM
Subject Heading: **WELL** LOGGING & SURVEYING

10/518125

27/9/2 (Item 1 from file: 103) **Links**
Energy SciTec

04167662 AIX-28-024191; EDB-97-076366
Title: Global properties of low and high energy magnetic excitations in deformed nuclei
Author(s): Iudice, N. Lo (Istituto Nazionale di Fisica Nucleare, Naples (Italy))
Title: **Fifteenth international workshop on nuclear theory. Rila Mountains, Bulgaria, June 10-15, 1996. Abstracts**
Corporate Source: Syyuz na Nauchnite Rabotnitsi v Bylgariya, Sofia (Bulgaria) Bylgarska Akademiya na Naukite, Sofia (Bulgaria). Inst. za Yadrena Izsledvaniya i Yadrena Energetika Sofia Univ. (Bulgaria). Fizicheski Fakultet **(Code:** 6062240; 1048300; 5828650)
Conference Title: 15. international workshop on nuclear theory
Conference Location: Gyulechitsa (Bulgaria) **Conference Date:** 10-15 Jun 1996

Publication Date: 1996 p 15 . (21 p)
Report Number(s): INIS-mf-15514 CONF-9606307--
Order Number: DE97623702
Document Type: Miscellaneous Analytic; Conference Literature; Numerical Data
Language: English
Journal Announcement: EDB9712
Availability: OSTI; NTIS (US Sales Only); INIS
Subfile: ERA (Energy Research Abstracts); ETD (Energy Technology Data Exchange) . INIS (non-US Atomindex input AIX)
US DOE Project/NonDOE Project: NP
Country of Origin: Italy
Country of Publication: Bulgaria
Abstract: Low- and high-energy magnetic dipole excitations, known as scissors modes, are studied in schematic proton-neutron quasi-particle random phase approximation using a Hartree-Fock mean field obtained self-consistently from a separable quadrupole-quadrupole interaction. It is shown that the Hartree mean field allows to separate exactly the redundant rotational mode from the physical **intrinsic** states. The separation remains exact even if pairing correlations are accounted for. The formalism can be exploited to deduce unweighted sum-rules which connect the M1 to the E2 transition strengths of each M1 mode. The relevance of these new M1-E2 relations to the study of the mode in deformed as **well** as in super-deformed nuclei is stressed. An energy weighted M1 sum-rule of general validity is finally deduced and computed using the Hartree mean field. It is shown that restoring the spherical symmetry of the Hamiltonian is crucial for a correct computation of such a sum-rule. This sum enables to relate the M1 transition strengths to the quadrupole collectivity of the deformed ground state in agreement with the observed deformation properties of the low-energy mode. Unweighted and weighted sum-rules are largely model independent estimates of the summed M1 strengths of both low and high energy M1 excitations. 3 refs. (author).
Major Descriptors: *DEFORMED NUCLEI -- EXCITED STATES
Descriptors: E2-TRANSITIONS; M1-TRANSITIONS; SUPERDEFORMED NUCLEI; THEORETICAL DATA
Broader Terms: DATA; DEFORMED NUCLEI; ENERGY LEVELS; ENERGY-LEVEL TRANSITIONS; INFORMATION ; MULTIPOLE TRANSITIONS; NUCLEI; NUMERICAL DATA
Subject Categories: 663110* -- General & Average Properties of Nuclei & Nuclear Energy Levels -- (1992-)
663120 -- Nuclear Structure Models & Methods -- (1992-)
663220 -- Electromagnetic Transitions -- (1992-)

INIS Subject Categories: G3110* -- General & average properties of nuclei & nuclear energy levels -- (1992-)
G3120 -- Nuclear structure models & methods -- (1992-)
G3220 -- Electromagnetic transitions -- (1992-)

N/A TAF 2/16/2007

10/518125

31/9/1 (Item 1 from file: 6) **Links**

Fulltext available through: Check for PDF Download Availability and Purchase

NTIS

0099847 **NTIS Accession Number:** AD-634 008/XAB

Allison Method of Chemical Analysis

(Final technical rept., Apr-Dec 65)

Mildrum, H. F. ; Schmidt, B. M.
Dayton Univ Ohio Research Inst

Corporate Source Codes: 105400

Report Number: UDRI-TR-106; AFAPL-TR-66-52

May 66 2p

Journal Announcement: USGRDR6614

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NTIS Prices: PC A02/MF A01

Contract Number: AF 33(657)-9175; AF-8119

The report describes the theoretical study and experimental circuit investigations conducted on the Allison effect **apparatus** used for chemical **analysis**. The inherent electrical behavior of an Allison effect apparatus was **well** defined by using modern high speed oscillographic techniques and frequency selective equipment. A continuous radio frequency spectrum characterized by numerous resonances rapidly diminishes into the noise level at 4000 megahertz. A theoretical **analysis** of the **apparatus** generated a valid equivalent circuit model. A review of the extensive data indicates that the Allison effect apparatus functions primarily as a phase comparator for radio frequencies in the 30 to 100 megahertz range. An rf-optical interaction in the cells, possibly by means of the Cotton-Mouton effect, is thought to produce a characteristic light modulation effect when phase matching occurs. (Author)

Descriptors: *Chemical analysis; *Magneto-optic effect; Instrumentation; Test equipment; **Electrical properties**; Radiofrequency spectroscopy; Circuits; Theory; Coils; **Electromagnetic** pulses; Calibration

Identifiers: Allison effect

Section Headings: 99D (Chemistry--Basic and Synthetic Chemistry); 70B (Administration and Management--Management Practice)

N/A TAF 2/16/2007

31/9/2 (Item 1 from file: 23) **Links**
Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT
CSA Technology Research Database

0005427136 IP Accession No: A97-19975

Study on electrical and photoelectrical behaviour of thin films of allyl viologen (AV) in PVA matrix

Sharma, G D; Sangodkar, S G; Roy, M S JNV Univ., Jodhpur, India [Sharma

Journal of Materials Science: Materials in Electronics , v 8 , n 1 , p 47-55 , Feb. 1997
Publication Date: 1997
Publisher: Kluwer , 101 Philip Drive , Norwell , MA , 02061
Country Of Publication: USA
Publisher Url: http://www.wkap.nl/
Publisher Email: Angela.depina@wkap.com

Conference:
, UNITED KINGDOM

Document Type: Journal Article
Record Type: Abstract
Language: ENGLISH
ISSN: 0957-4522
No. Of Refs.: 34
File Segment: Aerospace & High Technology

Abstract:
Allyl viologen (AV) was synthesized by cross-coupling reaction between allyl bromide and 4,4'-bipyridine in acetonitrile solvent. Optical properties were studied in the region 200-800 nm. Two types of electronic transition were seen, one under the influence of an electric field and another by thermal excitation, in the blue and green regions, respectively. A cyclic voltammogram, recorded in aqueous KCl solvent systems, shows the existence of two redox centers in the molecular system. **Electrical** and photoelectrical **properties** of an Al-AV-ITO sandwich **device** were **analyzed**. J-V and C-V measurements reveal the formation of a Schottky barrier at the Al-AV interface. Action spectra of the device, absorption spectra of the allyl viologen, as **well** as J-V and C-V characteristics confirm that the allyl viologen behaves as a p-type organic semiconductor. Various electrical and photoelectrical parameters are calculated and discussed in detail. (Author)

Descriptors: ***Electrical properties**; *Photoelectricity; *Thin films; *Pyridines; Schottky diodes; **Electromagnetic** absorption; Capacitance-voltage characteristics
Subj Catg: 33, ELECTRONICS AND ELECTRICAL ENGINEERING

N/A TAF 2/16/2007

31/9/3 (Item 2 from file: 23) **Links**
CSA Technology Research Database

0000833915 IP Accession No: N72-16641

Arc motion and modes in a homopolar device (Analysis of geometrical flow and Hall effects on dynamic behavior of electric arc in homopolar device for constant current and magnetic field) [Final Report, Sep. 1967 - Aug. 1969]

NOESKE, H O
Pages: 105P
Publication Date: 1971

Conference:
, United States

Document Type: Report
Record Type: Abstract
Language: English
Report No: AD-731803; ARL-71-0139; Pagination 105P
Numbers: Contract: F33615-67-C-1344; AF PROJ. 7063
File Segment: Aerospace & High Technology

Abstract:
The observed modes and the dynamic behavior of an electric arc in a homopolar device for constant current (100A) and magnetic field (1,500G) are quantitatively dependent on the type of gas (He, Ne, Ar, Xe). The peculiar behavior of the arc for both electrode polarities can be explained as a result of a competition between geometrical flow effects and the Hall effect, with the latter becoming more pronounced with decreasing pressure. The **well** known tendency of the cathode spot to move into the retrograde direction at low pressures under the influence of a transversal magnetic field seems only of secondary importance. No steady retrograde motion of the arc column has been observed. The Hall voltage is used to explain quantitatively the measured dynamic arc voltage as function of pressure. For all gases investigated the measured Hall parameter (10=omega=0.4) is given as function of pressure and roughly proportional to 1/p. Also, the arc rotational frequency as function of 1/pM (p=gas pressure M=atomic weight) can be plotted as one curve, which suggests that for lower pressure the main loss is kinetic energy of the rotating gas which has to be replaced by the **electromagnetic** energy of the rotating arc. In summary, two distinct arc modes for low gas pressures can be defined depending on electrode polarity: when the center electrode is cathode, the filamented current carrying arc moves together with the gas at high azimuthal velocity in amperian direction; when the center electrode is anode the discharge becomes diffuse and stationary in regard to the laboratory and pumps the plasma with high speed in the azimuthal amperian direction.

Descriptors: *Gas flow; *Hall effect; *Magnetohydrodynamics; *Plasma diagnostics; Electric arcs; **Electrical properties**; Magnetic fields; Test equipment
Subj Catg: 25, Physics, Plasma

MA TAF 2/16/2009

35/9/1 (Item 1 from file: 94) **Links**
Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT
JICST-EPlus

05313684 **JICST Accession Number:** 03A0033980 **File Segment:** JICST-E
Preparation and Evaluation of Fracture Resistance for Glass -Ceramic/Metal Composites.
TOYODA MITSUHIRO (1); SHIONO TAKESHI (1); NISHIDA TOSHIHIKO (1)
(1) Kyoto Inst. Technol., Faculty of Engineering and Design, JPN
Zairyo (Journal of the Society of Materials Science, Japan) , 2002 , VOL.51,NO.12 , PAGE.1392-1399 , FIG.14, TBL.2, REF.10
Journal Number: F0385ABI **ISSN:** 0514-5163 **CODEN:** ZARYA
Universal Decimal Classification: 539.42:666
Language: Japanese **Country of Publication:** Japan
Document Type: Journal
Article Type: Original paper
Media Type: Printed Publication
Abstract: .BETA.-spodumene **glass**-ceramics containing 30vol% Ni or 30vol% Co were prepared. Their mechanical properties were studied in comparison with the **glass** and monolithic **glass**-ceramics with different mean **grain** size. The R-curve behavior and the COD (Crack Opening Displacement) profiles for these composites were **evaluated** and the **mechanism** for fracture resistance was examined. For the composite containing Co, fracture resistance showed remarkable R-curve behavior from KI0=1.6MPa*m1/2 to KR=4.0MPa*m1/2 within short crack extension of 1.0mm. The composite was notably toughened. This result was discussed in terms of the microstructure. The COD measurements in **glass** showed that the interaction between fracture surfaces was not observed. In the COD profiles of **glass**-ceramic/metal composites and monolithic **glass** -ceramics, on the other hand, the experimental values were found to be lower than the theoretical values (Irwin parabola) near the crack tip because the interaction enhanced. Especially, it was obvious that external stress shielding effects acted more strongly near the crack tip in **glass**-ceramic/metal composites. The increase in the **grain** size and addition of metal were found to enhance the interaction between fracture surfaces. The relationship between the applied stress intensity (Kappl) and the stress intensity at the tip of crack (Ktip) as a function of Kappl/KIC indicated that metal particles acted as elastic bridging elements in **glass**-ceramic/metal composites. The size of bridging zone in COD profile for each specimen was clarified to correspond to that of rising extension in R-curve. (author abst.)
Descriptors: glass-ceramics; crystallization; metal **powder**; composite material; fracture toughness; aluminosilicate **glass**; pyroxene; crack opening displacement; R curve; brittleness; fracture surface; interaction; stress(mechanics); shielding; micro structure; crosslinking; elasticity(mechanical property); nickel; cobalt; X-ray diffraction; Young's modulus; scanning electron microscope; particle size(diameter); fracture testing; crack tip; fracture energy
Broader Descriptors: glass; ceramics; modification; metallic material; **powder**; **particulate** object; material; toughness; mechanical property; property; silicate **glass**; inosilicate mineral; silicate mineral; mineral(geology); phenomena in strength of material; phenomenon; displacement(transfer); transfer; curve; line; face; structure; polymer reaction; chemical reaction; fourth row element; element; iron group element; transition metal; metallic element; X-ray scattering; **electromagnetic** wave scattering; scattering; diffraction; coherent scattering; elastic modulus; coefficient; ratio; electron microscope; microscope; diameter; length; geometric quantity; material testing; test; edge; part; energy
Classification Codes: HC04040H

N/A TAP 2/16/2007

10/518125

35/9/2 (Item 2 from file: 94) **Links**
JICST-EPlus

02188292 **JICST Accession Number:** 93A0922152 **File Segment:** JICST-E
Crystal structure change by mixing agitation and material synthesis.
SAITO FUMIYOSHI (1)
(1) Tohoku Univ.
Kagaku Kogakkai Shuki Taikai Kenkyu Happyo Koen Yoshishu , 1993 , VOL.26th,NO.Pt 1 , PAGE.412-414 , FIG.5, REF.12
Journal Number: L0827AAY
Universal Decimal Classification: 66.065 666.5/.6
Language: Japanese **Country of Publication:** Japan
Document Type: Conference Proceeding
Article Type: Commentary
Media Type: Printed Publication
Abstract: Research by the authors on crystal structure change of **powder** by crushing and the mechanism is arranged. Outline of research results on genration of mechanochemical activity and crystal strucutre change referring talc (product observation by SEM, analyses of relation between local structure change and amorphatisation by crushing and micro configuration of atoms by X-ray diffraction method), and crushing effect and quantitative **evaluation** of the **mechanism** for amorphous state in ceramic material (mullite) synthesis by thermal analysis, etc. are explained.
Descriptors: grinding and milling; **powder**; crystal structure; structure analysis; X-ray diffraction; structural phase transition; mixing; mechanochemistry; ceramics; mullite; **glass** transition; talc
Broader Descriptors: particulate object; structure; analysis; X-ray scattering; **electromagnetic** wave scattering; scattering; diffraction; coherent scattering; phase transition; physical chemistry; chemistry; natural science; science; subsilicate mineral; nesosilicate mineral; silicate mineral; mineral(geology); phyllosilicate mineral
Classification Codes: XD03021O; YC03020V

MA TAF 2/16/2007

10/518125

35/9/3 (Item 1 from file: 103) **Links**

Energy SciTec

04166574 JPN-97-004245; EDB-97-075278

Title: Application of the beta-ray absorption method to the measurement of particles in the air

Author(s): Ise, Hiroaki; Nakamura, Masaru; Maeno, Tomokazu; Tanizaki, Yoshiyuki (Tokyo Metropolitan Isotope Research Center (Japan))

Source: Tokyo-Toritsu Aisotopu Sogo Kenkyusho Kenkyu Hokoku v 13 . **Coden:** TASHEK **ISSN:** 0289-6893

Publication Date: Mar 1996 p 79-88

Document Type: Journal Article

Language: Japanese

Journal Announcement: EDB9712

Subfile: ETD (Energy Technology Data Exchange) . JPN (Japan (sent to DOE from))

US DOE Project/NonDOE Project: NP

Country of Origin: Japan

Country of Publication: Japan

Abstract: With a view to facilitating the application of the micro-mass measuring technology which utilizes the beta-ray absorption method to the field of measurement of particles in the air, we have developed a multipurpose **device** to capture and **evaluate** the particles. It is applicable to a wide range of measurement of particles such as suspended **particulate** matters (SPM), dust falls and source particles. We have also made a study on its performance. As a result of our study on the material of the filter, which was carried out to improve the accuracy of measurement by beta-ray absorption method taking into consideration the application of such methods as the component analysis by PIXE, it was clarified that the combination of the polycarbonate membrane filter and the **glass** fiber filter coated with Teflon is excellent in performance. Moreover we also made a study on a simple measuring method of SPM, which will make it possible to measure the mass concentration of captured SPM even if its amount is very small, based on the data obtained by the automatic measuring device which is always monitoring one hour value of mass concentration of SPM through the beta-ray absorption method. As a result, we found that the combined method of the beta-ray absorption method the laser light scattering method and the filtration capturing/color differential method is excellent. So, we suggested a new measuring method derived from the color differential method and the sensual evaluation method. It will make it possible to measure SPM with an accuracy in the order of microgram. (author)

Major Descriptors: *ENVIRONMENTAL MATERIALS -- BETA RADIOGRAPHY

Descriptors: AEROSOLS; AIR SAMPLERS; FILTERS; LASER RADIATION; SENSITIVITY; TRACE AMOUNTS

Broader Terms: COLLOIDS; DISPERSIONS; **ELECTROMAGNETIC** RADIATION; EQUIPMENT; INDUSTRIAL RADIOGRAPHY; MATERIALS; RADIATIONS; SAMPLERS; SOLS

Subject Categories: 540111* -- Environment, Atmospheric -- Basic Studies -- Radiometric Techniques -- (1990-)

N/A TAF 2/16/2007

10/518125

35/9/4 (Item 2 from file: 103) **Links**
Energy SciTec

03204736 CHF-91-0F1140; EDB-91-132172
Title: Fabrication of CdTe solar cells by laser-driven physical vapor deposition
Author(s): Compaan, A.; Bhat, A.; Tabory, C.; Liu, S.; Nguyen, M.; Aydinli, A.; Tsien, L.H.; Bohn, R.G. (Toledo Univ., OH (USA). Dept. of Physics and Astronomy)
Conference Title: 10. Solar Energy Research Institute (SERI) photovaltaic advanced research and development project review meeting
Conference Location: Lakewood, CO (United States) **Conference Date:** 23-25 Oct 1990
Source: Solar Cells (Switzerland) v 30:1-4 . **Coden:** SOCLD **ISSN:** 0379-6787

Publication Date: May 1991 p 79-88
Report Number(s): CONF-9010117--
Contract Number (Non-DOE): SERI ZN-0-1919-3
Document Type: Journal Article; Conference Literature
Language: In English
Journal Announcement: EDB9120
Subfile: ETD (Energy Technology Data Exchange) .
US DOE Project/NonDOE Project: NP
Country of Origin: United States
Country of Publication: Switzerland
Abstract: Polycrystalline cadmium sulfide-cadmium telluride heterojunction solar cells were fabricated for the first time using a laser-driven physical vapor deposition method. An XeCl excimer laser was used to deposit both of the II-VI semiconductor layers in a single vacuum chamber from pressed **powder** targets. Results are presented from optical absorption. Raman scattering, X-ray diffraction, and electrical characterization of the films. Solar cells were fabricated by deposition onto SnO{sub 2}-coated **glass** with top contacts produced by gold evaporation. **Device** performance was **evaluated** from the spectral quantum efficiency and current-voltage measurements in the dark and with air mass 1.5 solar illumination. (orig.).
Major Descriptors: *CADMIUM TELLURIDE SOLAR CELLS -- LASER RADIATION; *CADMIUM TELLURIDE SOLAR CELLS -- PHYSICAL VAPOR DEPOSITION; *CADMIUM TELLURIDE SOLAR CELLS -- VACUUM EVAPORATION
Descriptors: CADMIUM SULFIDE SOLAR CELLS; CRYSTAL GROWTH; ELECTRIC CONDUCTIVITY; ELECTRICAL TESTING; POLYCRYSTALS; TEMPERATURE DEPENDENCE; THIN FILMS; TIN OXIDES
Broader Terms: CHALCOGENIDES; CRYSTALS; DEPOSITION; DIRECT ENERGY CONVERTERS; ELECTRICAL PROPERTIES; **ELECTROMAGNETIC** RADIATION; EQUIPMENT; EVAPORATION; FILMS ; MATERIALS TESTING; NONDESTRUCTIVE TESTING; OXIDES; OXYGEN COMPOUNDS; PHASE TRANSFORMATIONS; PHOTOELECTRIC CELLS; PHOTOVOLTAIC CELLS; PHYSICAL PROPERTIES; RADIATIONS; SOLAR CELLS; SOLAR EQUIPMENT; SURFACE COATING; TESTING; TIN COMPOUNDS
Subject Categories: 140501* -- Solar Energy Conversion -- Photovoltaic Conversion

N/A TAF 2/16/2007

10/518125

39/9/2 (Item 1 from file: 94) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

JICST-EPlus

05378020 **JICST Accession Number:** 03A0178570 **File Segment:** JICST-E

Electrical Steels Having Excellent Punchability for Compact and High-functional Automotive Electrical Components.

KONO MASAAKI (1); SENDA KUNIHIRO (1); HAYAKAWA YASUYUKI (1)
(1) Kawasaki Steel Corp., Tech. Res. Inst., JPN

Kawasaki Seitetsu Giho (Kawasaki Steel Giho) , 2003 , VOL.35,NO.1 , PAGE.1-6 , FIG.14, TBL.1, REF.17
Journal Number: G0980AAD **ISSN:** 0368-7236 **CODEN:** KWSGB
Universal Decimal Classification: 669:621.96/.98 621.318.1
Language: Japanese **Country of Publication:** Japan
Document Type: Journal
Article Type: Original paper
Media Type: Printed Publication

Abstract: The punchability of an electrical steel sheet and magnetic property with strain induced by punching were evaluated. Insulation coatings have much influence on the operating life of a stamping die. Inorganic-organic coating "A coating" has better punchability than inorganic coating "D coating", and self-adhesive type organic coating "B coating" has excellent punchability. The operating life of a stamping die is shortened with the increase of hardness of steel sheets. On the other hand, the **deterioration** of **magnetic** property with induced strain is restrained in a thinner and harder material. RMHE and RMHF series consist of good punchability, high flux density, low iron loss and low **hysteresis** loss and therefore they are suitable for driving motors and EPS motors. Newly developed **glass**-less **grain**-oriented electrical steel "RGE" has better punchability and magnetic anisotropy than conventional steels and accordingly, it is expected to be applicable to segmentalized motors. (author abst.)

Descriptors: silicon steel; blanking quality; strain; magnetic property; iron loss; **magnetic core**; film(cover); magnetic flux density; electric equipment
Broader Descriptors: steel; iron and steel; metallic material; magnetic alloy; alloy; magnetic material; material; formability; workability(machining); property; electrical loss; loss; magnetic component; parts; membrane and film; magnetic flux; flux; density
Classification Codes: WC04050H; NA04040H

N/A TAF 2/16/2007

10/518125

39/9/3 (Item 2 from file: 94) **Links**
JICST-EPlus

03791393 **JICST Accession Number:** 98A0971063 **File Segment:** JICST-E
Effect of Stress on Apparent Magnetic Permeability of Sputtered Ni Film.
IINO YUTAKA (1); HONDA FUMIHIRO (1); TSUCHIDA NUIO (1)
(1) Toyota Technol. Inst.
Nippon Kikai Gakkai Zenkoku Taikai Koen Ronbunshu , 1998 , VOL.76th,NO.Vol.1 , PAGE.371-372 , FIG.3, TBL.1, REF.1
Journal Number: X0587AAL
Universal Decimal Classification: 620.179:669 531.71/.74
Language: Japanese **Country of Publication:** Japan
Document Type: Conference Proceeding
Article Type: Short Communication
Media Type: Printed Publication
Abstract: Ni (99.99%) was sputtered on the specimens of non-magnetic materials (**glass** and 2024-T3 Al alloy). The sputtered **glass** specimens were elastically bended by four-point-**bend**. The apparent **magnetic permeability** .MU.a of the sputtered Ni was measured using a high-sensitive **permeability** meter. The .MU.a decreases linearly with increasing tensile bending stress. The .MU.a of the sputtered Ni on the specimen polished with 0.5.MU.m Al2O3 **powder** decreases also with tensile stress, while that on the specimens polished with SiC emery paper of #1500 and #320 did not change by the tensile stress. The roughness of the surface was found to be important factor for stress dependency of .MU.a of the sputtered Ni. (author abst.)
Descriptors: metallic thin film; nonmagnetic steel; magnetic field measuring inspection; strain gauge; magnetic **permeability**; stress measurement; surface roughness; sputtered deposition; tensile stress
Broader Descriptors: metal; thin film; membrane and film; steel; iron and steel; metallic material; magnetic inspection; **electromagnetic** test; nondestructive inspection; inspection; measuring instrument; magnetic property; ratio; measurement; surface quality; flatness(property); property; physical vapor deposition; vapor deposition; axial stress; stress(mechanics)
Classification Codes: HB02030F; AD05020O

N/A TAF 2/16/2007

10/518125

39/9/4 (Item 3 from file: 94) **Links**

JICST-EPlus

03482142 **JICST Accession Number:** 98A0073301 **File Segment:** JICST-E

Development of magnetic cores utilizing magneto-elastically induced anisotoropy.

IKEZOE HIROAKI (1); NAKANO MASAKI (1); FUKUNAGA HIROTOSHI (1)
(1) Nagasaki Univ.

Denki Gakkai Magunetikkusu Kenkyukai Shiryo , 1997 , VOL.MAG-97,NO.198-207 , PAGE.7-11 , FIG.12, REF.7
Journal Number: Z0924AAQ
Universal Decimal Classification: 621.318.1
Language: Japanese **Country of Publication:** Japan
Document Type: Conference Proceeding
Article Type: Original paper
Media Type: Printed Publication

Abstract: Magnetic core with the **permeability** of about 150 were prepared by annealing **Metglas** 2605S3A ribbons in an O2 or N2 atmosphere, and effect of DC-bias field on their magnetic properties was studied. The atmosphere during annealing did not affect resultant magnetic properties of the cores, and the low **permeability** was estimated to be achieved by the partial crystallization and the resultant change in magnetization mode to the magnetization rotation mode. The amount of crystallized part was estimated to be about 15% in weight. A decrease in AC-**permeability** due to an application of DC-bias field was smaller than that of a Mn-Zn ferrite core with airgap (.MU.=120) but larger than that of a Mo permalloy **powder** core (.MU.=130). The core loss, which is comparable with that of an amorphous cut core (.MU.=200) and a sendust **powder** core (.MU.=100), decreased with increasing the magnitude of DC-bias field at low frequencies such as 10kHz and increased at high frequencies such as 150kHz. This increase may be attributed to in-plane eddy current loss at high frequencies. (author abst.)

Descriptors: magnetic core; magnetic **permeability**; choke coil; amorphous magnetic material; iron base alloy; magnetic anisotropy; heat treatment; atmosphere(environment); oxygen; nitrogen; crystallization; iron loss; **magnetostriction**
Broader Descriptors: magnetic component; parts; magnetic property; ratio; inductor; circuit component; magnetic substance; magnetic material; material; amorphous state ; glassy state; solid(matter); iron and steel; metallic material; anisotropy; property; treatment; environment; oxygen group element; element ; second row element; nitrogen group element; modification; electrical loss ; loss; magnetoelastic effect; magnetomechanical effect; magnetic field effect; effect
Classification Codes: NA04040H

TAF 2/16/2007

39/9/5 (Item 1 from file: 34) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

04244928 **Genuine Article#:** RR107 **Number of References:** 50

NANOCRYSTALLINE SOFT-MAGNETIC FE-M-B (M=ZR, HF, NB) ALLOYS PRODUCED BY CRYSTALLIZATION OF AMORPHOUS PHASE (OVERVIEW)

Author: MAKINO A; INOUE A; MASUMOTO T
Corporate Source: ALPS ELECT CO LTD,CENT RES LAB,NAGAOKA BRANCH/NAGAOKA/NIIGATA 940/JAPAN/; TOHOKU UNIV,INST MAT RES/SENDAI/MIYAGI 98077/JAPAN/

Journal: MATERIALS TRANSACTIONS JIM , 1995 , V 36 , N7 (JUL) , P 924-938
ISSN: 0916-1821
Language: ENGLISH **Document Type:** ARTICLE
Geographic Location: JAPAN
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology & Applied Sciences
Journal Subject Category: METALLURGY & METALLURGICAL ENGINEERING; MATERIALS SCIENCE

Abstract: This paper reviews our results on the development of a new type of soft magnetic material with high saturation magnetic flux density (B-S) combined with excellent soft magnetic properties. A mostly single bcc structure composed of bcc **grains** with about 10-20 nm in size surrounded by a small amount of intergranular amorphous layers was obtained by crystallization of amorphous phases prepared by melt-spinning and sputtering technique in Fe-rich regions of Fe-M-B (M=Zr, Nb, Hf) ternary systems. The typical nanocrystalline bcc Fe90Zr7B3, Fe69Hf7B4 and Fe84Nb7B9 alloys subjected to the optimum annealing exhibit high B, above 1.5 T as well as high effective **permeability** (mu(c)) at 1 kHz above 20000.

The high B-s for the Fe-M-B alloys is resulting from the high Fe concentrations owing to high **glass** -forming ability of M(Zr, Hf, Nb) and B. The origin of the good soft magnetic properties for the alloys are listed as follows. (1) The apparent anisotropy is decreased by the combined effects of the formation of the nanoscale bcc structure and the achievement of rather strong magnetic coupling between the bcc **grains** through the intergranular ferromagnetic amorphous phase. (2) The small saturation **magnetostriction** (lambda(s)) results from the nonequilibrium bcc phase. The solute-rich inter-glanular amorphous phase with high Curie temperature (T-c) and high thermal stability has an important role in the achievement of the good soft magnetic properties through the formation of the nanoscale bcc structure and the attainment of the rather strong magnetic coupling between the bcc **grains**.

The soft magnetic properties of the nanocrystalline Fe-M-B alloys were improved through the decrease in the bcc **grain** size and the increase in T-c of the intergranular amorphous phase by optimizing heating rate in the crystallization process and adding small amounts of elements. For example, the improved Fe84Zr3.5Nb3.5B8Cu1 alloy shows the high mu(c) of 100000 combined with the high B-s of 1.53 T. This excellent mu(c) is comparable to those of nanocrystalline Fe73.5Si13.5B9Nb3Cu1 and the zero-**magnetostrictive** Co based amorphous alloys, and the high B-s is comparable to those of the Fe based amorphous alloys with good soft magnetic properties. The Fe-M-B based alloys also have very low core losses, the sufficient thermal stability and the low stress-sensibility of the soft magnetic properties. Therefore, the nanocrystalline Fe-M-B alloys are expected as practical magnetic materials for magnetic transformers, inductors, and other devices and parts.

Descriptors--Author Keywords: AMORPHOUS ALLOY ; CRYSTALLIZATION ; NANOCRYSTALLINE ; IRON BOSE ALLOY ; MELT-SPUN RIBBON ; SPUTTERED ALLOY FILM ; SOFT MAGNETIC PROPERTY ;

ZERO-**MAGNETOSTRICTION** ; SATURATION **MAGNETIC** FLUX DENSITY ; **CORE** LOSS
Identifiers-- KeyWords Plus: HIGH SATURATION MAGNETIZATION; ULTRAFINE **GRAIN** -STRUCTURE; TRANSITION-METAL ALLOYS; ZR-B; FILMS; SIZE
Research Fronts: 93-6357 002 (NANOCRYSTALLINE FE73.5CU1NB3SI13.5B9; AL-CU-MG-AG ALLOY; MAGNETIC LOSSES; CRYSTALLIZATION BEHAVIOR)
Cited References:

N/A TAF 2/16/2007

10/518125

43/9/1 (Item 1 from file: 2) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

INSPEC

10040883

Title: Conductivity dependence of seismoelectric wave phenomena in fluid-saturated sediments

Author Block, G.I.; Harris, J.G.
Author Affiliation: Lawrence Livermore Nat. Lab., Berkeley, CA, USA

Journal: Journal of Geophysical Research-Part B-Solid Earth vol.111, no.B1 p. 12 pp.
Publisher: American Geophys. Union ,
Publication Date: 4 Jan. 2006 **Country of Publication:** USA
CODEN: JGREA2 **ISSN:** 0148-0227
Material Identity Number: J396-2006-003
U.S. Copyright Clearance Center Code: 48-0227/06/2005JB003798$09.00

Language: English **Document Type:** Journal Paper (JP)
Treatment: Theoretical (T)

Abstract: Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand. (54 Refs)

Subfile: A

Descriptors: acoustic waves; fluids; sediments; seismology; terrestrial electricity

Identifiers: conductivity dependence; seismoelectric wave phenomena; fluid-saturated sediments; acoustic wave; fluid motion; pore space; electrostatic equilibrium; electric double layer; **grain surfaces**; electrokinetic effect; EK; loose **glass** microspheres ; medium-**grain** sand; NaCl concentration; pore fluid; **electric fields**; fluid-sediment interface; sediment pores; poroelastic media; viscoelastic fluid; plane wave reflection model; EK-Biot theory; NaCl

Class Codes: A9125Q (Geoelectricity; electromagnetic induction and conductivity); A9160B (Mechanical and acoustic properties of rocks, minerals and soil)

Chemical Indexing:
NaCl bin - Cl bin - Na bin (Elements - 2)

N/A TAF 2/16/2007

10/518125

43/9/2 (Item 1 from file: 35) **Links**
Dissertation Abs Online

02052032 ORDER NO: AADAA-I3153250

Coupled acoustic and electromagnetic disturbances in a granular material saturated by a fluid electrolyte

Author: Block, Gareth Ian
Degree: Ph.D.
Year: 2004
Corporate Source/Institution: University of Illinois at Urbana-Champaign (0090)
Adviser: John G. Harris
Source: Volume 6511B of Dissertations Abstracts International.
PAGE 5776 . 160 PAGES
Descriptors: PHYSICS, ACOUSTICS ; APPLIED MECHANICS ; PHYSICAL OCEANOGRAPHY
Descriptor Codes: 0986; 0346; 0415
ISBN: 0-496-13737-9

The U.S. Navy has an ongoing need for a reliable model of acoustics in ocean sediments. Viscoelastic fluid and solid descriptions are commonly used, but are often unable to account for the variability exhibited by different types of sediments. Poroelasticity (also known as Biot theory) relates the seabed's observed behavior to sediment microstructure and pore-fluid motion explicitly. Traditional acoustical techniques have had difficulty distinguishing between Biot theory predictions and those based on fluid and solid models. Electrokinetic (EK) phenomena—the coupling of relative fluid motion and **grain surface** chemistry—are generated by wave propagation in electrolyte-saturated sediments. The coupled EK-Biot theory developed by Pride (1994) describes how acoustic waves generate **electromagnetic fields**, and simultaneously, how **electromagnetic fields** affect wave behavior.

We devised two reciprocal experiments to study these phenomena. “EK **transmission** ” occurs when an applied voltage creates an electro-acoustic wave; in practice, this leads to thermoelastic motion, as **well** as electrokinetics, so that we have had to account for both effects. Conversely, “EK reception” occurs when a pressure wave generates a measurable voltage in electrolyte-saturated sediments. The EK reception apparatus made use of a submerged, acoustic transducer to insonify a water-sediment interface with short, 50 kHz sine-wave bursts and chirped **pulses** from 10–800 kHz. The resulting wave motion was monitored using Ag/AgCl electrodes fixed in a vertical array above and below the sediment interface. We measured the **conductivity** dependence of two kinds of EK behavior: (1) voltages generated within the samples that were localized around the **transmitted** “fast” waves, and (2) **electromagnetic** (EM) waves produced at the water-sediment interface. Fast-wave voltages were often greater than 500 μV, while the EM-wave potentials were usually 100 μV in magnitude. A model of plane-wave reflection from a water-EK-Biot interface leads to theoretical predictions that compare very **well** to experimental data for sand and **glass** microspheres. Both EM- and fast-wave voltages are caused by relative fluid motion in the sediment, a feature that is characteristic of poroelastic media—but not predicted by either fluid or solid models.

N/A TAP 2/16/2007

43/9/3 (Item 1 from file: 144) **Links**

Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT

Pascal

17563449 PASCAL No.: 06-0150837

Conductivity dependence of seismoelectric wave phenomena in fluid-saturated sediments

BLOCK Gareth I; HARRIS John G
Lawrence Livermore National Laboratory, Livermore, California, United States; Center for Quality Engineering and Failure Prevention, Northwestern University, Evanston, Illinois, United States

Journal: Journal of geophysical research,
2006, 111 (B1)
B01304.1-B01304.12
ISSN: 0148-0227 Availability: INIST-3144;
354000153407230090
No. of Refs.: 53 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English

Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces** . Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand.

English Descriptors: **conductivity**; acoustical waves; equilibrium; **grains**; sand; concentration; pore fluid; **electrical field**; **electromagnetic** waves; interfaces; models; plane waves; wave reflection; theory; lead; prediction

French Descriptors: Conductivite; Onde acoustique; Equilibre; **Grain**; Sable; Concentration; Fluide interstitiel; Champ electrique; Onde

electromagnetique; Interface; Modele; Onde plane; Reflexion onde; Theorie; Plomb; Prevision

Classification Codes: 220; 001E; 001E01

M/A JAF 2/6/2007

10/518125

43/9/4 (Item 1 from file: 34) **Links**
Fulltext available through: SCIENCEDIRECT

14791237 **Genuine Article#:** 007WB **Number of References:** 53
Conductivity dependence of seismoelectric wave phenomena in fluid-saturated sediments

Author: Block GI (REPRINT) ; Harris JG
Corporate Source: Lawrence Livermore Natl Lab,7000 E Ave,L-206/Livermore//CA/94566 (REPRINT); Lawrence Livermore Natl Lab,Livermore//CA/94566; Northwestern Univ,Ctr Qual Engn & Failure Prevent,Evanston//IL/60208 (block4@llnl.gov)
Journal: JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH , 2006 , V 111 , NB1 (JAN 19) , B01304
ISSN: 0148-0227 **Publication date:** 20060119
Publisher: AMER GEOPHYSICAL UNION , 2000 FLORIDA AVE NW, WASHINGTON, DC 20009 USA
Language: English **Document Type:** ARTICLE
Geographic Location: USA
Journal Subject Category: GEOCHEMISTRY & GEOPHYSICS
Abstract: [1] Seismoelectric phenomena in sediments arise from acoustic wave - induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand.
Identifiers-- KeyWord Plus(R): POROUS-MEDIA; MARINE-SEDIMENTS; ACOUSTIC PROPAGATION; FIELD-MEASUREMENTS; POROELASTIC MEDIA; POINT SOURCES; ATTENUATION; MODEL; FLOW; CONVERSIONS

N/A TAP 2/16/2007

10/518125

43/9/5 (Item 1 from file: 23) **Links**
Fulltext available through: custom link USPTO Full Text Retrieval Options SCIENCEDIRECT
CSA Technology Research Database

0007799337 IP Accession No: 200612-D2-D-36814; 85-29435

COMPARISON OF ELECTROMAGNETIC SHIELDING IN GFR-NANO COMPOSITES

Jung, Woo-Kyun; Won, Myong-Shik; Ahn, Sung-Hoon Seoul National University of Korea 301B/D 1255-1, San56-1, Shinlim, Kwanak, Seoul, Korea, 151-742
Ceramic Engineering and Science Proceedings , v 26 , n 8 , p 363-371 , 2005
Publication Date: 2005
Publisher: American Ceramic Society, Inc. , 735 Ceramic Place , Westerville , OH , 43081
Country Of Publication: USA
Publisher Url: http://www.ceramics.org

Conference:
Proceedings of the 29th International Conference on Advanced Ceramics and Composites , Cocoa Beach, Florida , USA , 23-28 Jan. 2005

Document Type: Journal Article
Record Type: Abstract
Language: English
ISSN: 0196-6219
ISBN: 1574982613
File Segment: Engineering Materials Abstracts; Ceramics Abstracts/World Ceramic Abstracts

Abstract:
The research on **electromagnetic** shielding has been advanced for military applications as **well** as for commercial products. Utilizing the reflective properties and absorptive properties of shielding material, the replied signal measured at the rear **surface**, or at the signal source can be minimized. The shielding effect was obtained from such materials that have high absorptive properties and structural characteristics, for example stacking sequence. In this research { **glass** fiber}/ {epoxy} / {nano particle} composites (referred to GFR-Nano composites) was fabricated using various nano particles, and their properties in **electromagnetic** shielding were compared. For visual observation of the nano composite materials, SEM(Scanning Electron Microscope) and TEM(**Transmission** Electron Microscope) were used. For measurement of **electromagnetic** shielding, HP8719ES S-parameter Vector Network Analyser System was used on the frequency range from 8 GHz to 12GHz. Among the nano particles, carbon black and Multi-walled Carbon Nano-tube (MWCNT) revealed outstanding **electromagnetic** shielding. Although silver nano particles (flake and **powder**) were expected to have effective **electromagnetic** shielding due to their excellent electric conductivities, test results showed relatively little shielding effect.

Descriptors: Nanostructure; **Electromagnetic** shielding; Nanocomposites; Nanomaterials; **Particulate** composites; Shielding; Polymer matrix composites; Electron microscopes; Absorptivity; **Electrical conductivity**; Stacking; **Sequences**; Vector network analysers; Flakes; Military applications; Visual observation; Industrial engineering; Carbon black; Silver; **Surface** chemistry
Subj Catg: D2, Materials Development; 16C, Processing Science

N/A MAF 2/16/2007

10/518125

43/9/6 (Item 1 from file: 987) Links

Fulltext available through: SCIENCEDIRECT

TULSA (Petroleum Abs)

0001847108 **Petroleum Abstract No:** 892526

CONDUCTIVITY DEPENDENCE OF SEISMOELECTRIC WAVE PHENOMENA IN FLUID-SATURATED SEDIMENTS

BLOCK, G I; HARRIS, J G
LAWRENCE LIVERMORE NAT LAB; NORTHWESTERN UNIV

JOURNAL OF GEOPHYSICAL RESEARCH v.111, no.B1, 1/4/2006. (ISSN 0148-0227; Citation no.B01304; 12 pp; Over 10 refs)
2006
ISSN: 0148-0227
Language: ENGLISH
Document Type: JOURNAL ARTICLE; J
Record Type: ABSTRACT

Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand.

Primary Descriptor: SEISMOELECTRIC EFFECT

Major Descriptors: BIOT THEORY; ELASTIC WAVE; ELECTRICAL **CONDUCTIVITY**; ELECTRICAL PROPERTY; FLUID FLOW; PHYSICAL PROPERTY; SATURATION; SATURATION (ROCK); SOUND WAVE; THEORY; WAVE

Minor Descriptors: CHLORIDE; COMPOUND; DARCYS LAW; DIELECTRIC PROPERTY; ELECTRIC CHARGE; **ELECTRIC** CURRENT; **ELECTRIC FIELD**; **ELECTRIC** POTENTIAL; **ELECTRICAL** EQUIPMENT; ELECTRICITY; ELECTRODE; ELECTROKINETIC POTENTIAL; ELECTROKINETICS; ELECTROLYTE; **ELECTROMAGNETIC** WAVE; ENGLISH; EQUATION; EXPERIMENT; FLUID FLOW EQUATION; FLUID PROPERTY; FORMATION (**GEOLOGY**); FREQUENCY; **GEOLOGIC** MODEL; GEOPHYSICS; **GLASS**; **GLASS BEAD**; **GRAIN** PACKING; **GRAIN** PROPERTY; **GRAIN** SIZE (**GEOLOGY**); HALIDE; INTERFACE; KINETICS; LABORATORY EQUIPMENT; LABORATORY TESTING; MATHEMATICAL ANALYSIS; MATHEMATICS; MAXWELL EQUATION; MODEL; **PERMEABILITY**; PLANE WAVE; PORE GEOMETRY; POROUS MEDIA; REFLECTION (SEISMIC); RESERVOIR FLUID; SALT; SAND; SEDIMENT (**GEOLOGY**); SEISMIC WAVE PROPAGATION; SODIUM CHLORIDE; TESTING; TIME SERIES; UNCONSOLIDATED FORMATION; WAVE FREQUENCY; WAVE PHENOMENON; WAVE PROPAGATION

Subject Heading: GEOPHYSICS

N/A TAF 2/16/2007

10/518125

43/9/7 (Item 2 from file: 987) **Links**

TULSA (Petroleum Abs)

0001674028 **Petroleum Abstract No:** 719446

HYSTERESIS IN DIELECTRIC PROPERTIES OF FLUID-SATURATED POROUS MEDIA

BRUINING, J; NGUYEN, B L; SLOB, E C
DELFT UNIV TECHNOL

SPE ASIA PACIFIC IMPR. OIL RECOVERY CONF. [APIORC 99] (Kuala Lumpur, Malaysia, 10/25-26/1999) PROC. 1999. (SPE-57305; Available on CD-ROM; 11 pp; 10 refs)
1999
Report Number: SPE-57305
Language: ENGLISH
Document Type: MEETING PAPER TEXT; AT
Record Type: ABSTRACT

Measurements are presented of the complex dielectric **permittivity** and electric **conductivity** in 3 different porous media, made from unconsolidated acid-purified quartz sand and **glass grains**. To ensure the generality of the results, sand and **glass grains** of different geometry and particle size distribution are used. The measurements are made in the frequency range of 300 kHz to 3 GHz, which covers the operating frequencies of all **electromagnetic** tools. A specially designed capillary pressure cell with a built-in **transmission** line goes through the porous media. The measured capillary pressure curves serve as an indication of the capillary **hysteresis** during the entire drainage and imbibition cycle. From the scattering characteristics of the built-in **transmission** line, the complex dielectric **permittivity** of the porous media is computed as a function of frequency and water saturation.

Primary Descriptor: HYSTERESIS
Major Descriptors: ABSORPTION; DIELECTRIC PROPERTY; DRAINAGE; ELECTRICAL **CONDUCTIVITY**; ELECTRICAL PROPERTY; **ELECTROMAGNETIC** WAVE SRCE; IMBIBITION; PHYSICAL PROPERTY; SORPTION; WAVE SOURCE
Minor Descriptors: BODY (GEOMETRIC); CABLE; CAPILLARY PRESSURE; CELL (INSTRUMENT); CHART; COAXIAL CABLE; CONTAMINATION; DEFLECTION; DETECTOR; DIFFERENTIAL PRESSURE; DOMAIN; ELECTRIC CABLE; **ELECTRIC** LOGGING; **ELECTROMAGNETIC FIELD**; **ELECTROMAGNETIC** TRANSDUCER; **ELECTROMAGNETISM**; ENGINEERING DRAWING; ENGLISH; ENVIRONMENTAL POLLUTION; FLOW CHART; FREQUENCY; FREQUENCY DOMAIN; GEOMETRY; **GLASS**; **GLASS BEAD**; GRAPH; GRAPHICAL REPRESENTATION; HIGH FREQUENCY; INSTRUMENT; LABORATORY EQUIPMENT; LOW FREQUENCY; MAGNETISM; MATHEMATICAL ANALYSIS; MATHEMATICS; MEASURING; MEETING PAPER TEXT; MINERAL; OIL WETTABILITY; OPTIMIZATION; OXIDE MINERAL; PARTICLE SIZE; POROSITY; POROSITY (ROCK); POROUS MEDIA; PRESSURE; PRESSURE TRANSDUCER; QUARTZ; REFLECTION; **RESISTIVITY**; SAMPLE PREPARATION; SAND; SATURATION; SATURATION DISTRIBUTION; SCATTERING; SEDIMENT (**GEOLOGY**); SOIL (**EARTH**); SOIL POLLUTION; SPHERE; **SURFACE** PROPERTY; TEST PROBE; TESTING; TRANSDUCER; **TRANSMISSION** (DATA); **TRANSMITTING**; VALIDATION; WATER POLLUTION; WATER SATURATION; WATER WETTABILITY; WAVE PHENOMENON; WAVE PROPAGATION; **WELL** LOGGING; **WELL** LOGGING & SURVEYING; **WELL** LOGGING EQUIPMENT; WETTABILITY
Subject Heading: WELL LOGGING & SURVEYING

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Conductivity dependence of seismoelectric wave phenomena in fluid-saturated sediments

Block G.I.; Harris J.G.
Address: G.I. Block, Lawrence Livermore National Laboratory, 7000 East Avenue, Livermore, CA 94566 , United States
Email: block4@llnl.gov

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Languages: English **Summary Languages:** English
No. Of References: 52

Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand. Copyright 2006 by the American Geophysical Union.

Descriptors:
electrokinesis; electrical **conductivity**; saturated medium; seismic property
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Energy SciTec

05573550 LLNL; RN06086893
Title: Seismoelectric Phenomena in Fluid-Saturated Sediments
Author(s): Block, G I; Harris, J G
Corporate Source: Lawrence Livermore National Laboratory (LLNL), Livermore, CA
Sponsoring Organization: USDOE
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Document Type: Journal Article
Language: English
Medium/Dimensions: Size: PDF-file: 42 pages; size: 0.8 Mbytes
Country of Publication: United States
Abstract: Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study this electrokinetic (EK) effect are described and outcomes for studies of seismoelectric phenomena in loose **glass** microspheres and medium- **grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves, and (2) the **electromagnetic** wave produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores--this feature is characteristic of poroelastic (Biot) media, but not predicted by either viscoelastic fluid or solid models. A model of plane-wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both sand and **glass** microspheres.
Descriptors: ACOUSTICS; **ELECTRIC FIELDS**; ELECTRODYNAMICS; **ELECTROMAGNETIC** RADIATION; ELECTROSTATICS; **GLASS**; MICROSPHERES; REFLECTION; SAND; SEDIMENTS
Subject Categories: 58 -- GEOSCIENCES

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44/9/1 (Item 1 from file: 2) **Links**
Fulltext available through: USPTO Full Text Retrieval Options SCIENCEDIRECT
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10040883
Title: Conductivity dependence of seismoelectric wave phenomena in fluid-saturated sediments
Author Block, G.I.; Harris, J.G.
Author Affiliation: Lawrence Livermore Nat. Lab., Berkeley, CA, USA
Journal: Journal of Geophysical Research-Part B-Solid Earth vol.111, no.B1 p. 12 pp.
Publisher: American Geophys. Union ,
Publication Date: 4 Jan. 2006 **Country of Publication:** USA
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Material Identity Number: J396-2006-003
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Language: English **Document Type:** Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study the **conductivity** dependence of the electrokinetic (EK) effect are described, and outcomes for studies in loose **glass** microspheres and medium-**grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves and (2) the **electromagnetic** waves produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores; this feature is characteristic of poroelastic (Biot) media but is not predicted by either viscoelastic fluid or solid models. A model of plane wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both loose **glass** microspheres and medium-**grain** sand. (54 Refs)
Subfile: A
Descriptors: acoustic waves; fluids; sediments; seismology; terrestrial electricity
Identifiers: conductivity dependence; seismoelectric wave phenomena; fluid-saturated sediments; acoustic wave; fluid motion; pore space; electrostatic equilibrium; electric double layer; **grain surfaces**; electrokinetic effect; EK; loose **glass** microspheres ; medium-**grain** sand; NaCl concentration; pore fluid; **electric fields**; fluid-sediment interface; sediment pores; poroelastic media; viscoelastic fluid; plane wave reflection model; EK-Biot theory; NaCl
Class Codes: A9125Q (Geoelectricity; electromagnetic induction and conductivity); A9160B (Mechanical and acoustic properties of rocks, minerals and soil)
Chemical Indexing:
NaCl bin - Cl bin - Na bin (Elements - 2)

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Coupled acoustic and electromagnetic disturbances in a granular material saturated by a fluid electrolyte

Author: Block, Gareth Ian
Degree: Ph.D.
Year: 2004
Corporate Source/Institution: University of Illinois at Urbana-Champaign (0090)
Adviser: John G. Harris
Source: Volume 6511B of Dissertations Abstracts International.
PAGE 5776 . 160 PAGES
Descriptors: PHYSICS, ACOUSTICS ; APPLIED MECHANICS ; PHYSICAL OCEANOGRAPHY
Descriptor Codes: 0986; 0346; 0415
ISBN: 0-496-13737-9

The U.S. Navy has an ongoing need for a reliable model of acoustics in ocean sediments. Viscoelastic fluid and solid descriptions are commonly used, but are often unable to account for the variability exhibited by different types of sediments. Poroelasticity (also known as Biot theory) relates the seabed's observed behavior to sediment microstructure and pore-fluid motion explicitly. Traditional acoustical techniques have had difficulty distinguishing between Biot theory predictions and those based on fluid and solid models. Electrokinetic (EK) phenomena—the coupling of relative fluid motion and **grain surface** chemistry—are generated by wave propagation in electrolyte-saturated sediments. The coupled EK-Biot theory developed by Pride (1994) describes how acoustic waves generate **electromagnetic fields**, and simultaneously, how **electromagnetic fields** affect wave behavior.

We devised two reciprocal experiments to study these phenomena. “EK **transmission** ” occurs when an applied voltage creates an electro-acoustic wave; in practice, this leads to thermoelastic motion, as **well** as electrokinetics, so that we have had to account for both effects. Conversely, “EK reception” occurs when a pressure wave generates a measurable voltage in electrolyte-saturated sediments. The EK reception apparatus made use of a submerged, acoustic transducer to insonify a water-sediment interface with short, 50 kHz sine-wave bursts and chirped **pulses** from 10–800 kHz. The resulting wave motion was monitored using Ag/AgCl electrodes fixed in a vertical array above and below the sediment interface. We measured the **conductivity** dependence of two kinds of EK behavior: (1) voltages generated within the samples that were localized around the **transmitted** “fast” waves, and (2) **electromagnetic** (EM) waves produced at the water-sediment interface. Fast-wave voltages were often greater than 500 μV, while the EM-wave potentials were usually 100 μV in magnitude. A model of plane-wave reflection from a water-EK-Biot interface leads to theoretical predictions that compare very **well** to experimental data for sand and **glass** microspheres. Both EM- and fast-wave voltages are caused by relative fluid motion in the sediment, a feature that is characteristic of poroelastic media—but not predicted by either fluid or solid models.

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44/9/3 (Item 1 from file: 23) Links

Fulltext available through: custom link USPTO Full Text Retrieval Options SCIENCEDIRECT

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COMPARISON OF ELECTROMAGNETIC SHIELDING IN GFR-NANO COMPOSITES

Jung, Woo-Kyun; Won, Myong-Shik; Ahn, Sung-Hoon Seoul National University of Korea 301B/D 1255-1, San56-1, Shinlim, Kwanak, Seoul, Korea, 151-742

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Abstract:
The research on **electromagnetic** shielding has been advanced for military applications as **well** as for commercial products. Utilizing the reflective properties and absorptive properties of shielding material, the replied signal measured at the rear **surface**, or at the signal source can be minimized. The shielding effect was obtained from such materials that have high absorptive properties and structural characteristics, for example stacking sequence. In this research { **glass** fiber}/ {epoxy} / {nano particle} composites (referred to GFR-Nano composites) was fabricated using various nano particles, and their properties in **electromagnetic** shielding were compared. For visual observation of the nano composite materials, SEM(Scanning Electron Microscope) and TEM(**Transmission** Electron Microscope) were used. For measurement of **electromagnetic** shielding, HP8719ES S-parameter Vector Network Analyser System was used on the frequency range from 8 GHz to 12GHz. Among the nano particles, carbon black and Multi-walled Carbon Nano-tube (MWCNT) revealed outstanding **electromagnetic** shielding. Although silver nano particles (flake and **powder**) were expected to have effective **electromagnetic** shielding due to their excellent electric conductivities, test results showed relatively little shielding effect.

Descriptors: Nanostructure; **Electromagnetic** shielding; Nanocomposites; Nanomaterials; **Particulate** composites; Shielding; Polymer matrix composites; Electron microscopes; Absorptivity; **Electrical conductivity**; Stacking; **Sequences**; Vector network analysers; Flakes; Military applications; Visual observation; Industrial engineering; Carbon black; Silver; **Surface** chemistry
Subj Catg: D2, Materials Development; 16C, Processing Science

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TULSA (Petroleum Abs)

0001674028 **Petroleum Abstract No:** 719446

HYSTERESIS IN DIELECTRIC PROPERTIES OF FLUID-SATURATED POROUS MEDIA

BRUINING, J; NGUYEN, B L; SLOB, E C
DELFT UNIV TECHNOL
SPE ASIA PACIFIC IMPR. OIL RECOVERY CONF. [APIORC 99] (Kuala Lumpur, Malaysia, 10/25-26/1999) PROC. 1999. (SPE-57305; Available on CD-ROM; 11 pp; 10 refs)
1999
Report Number: SPE-57305
Language: ENGLISH
Document Type: MEETING PAPER TEXT; AT
Record Type: ABSTRACT
Measurements are presented of the complex dielectric **permittivity** and electric **conductivity** in 3 different porous media, made from unconsolidated acid-purified quartz sand and **glass grains**. To ensure the generality of the results, sand and **glass grains** of different geometry and particle size distribution are used. The measurements are made in the frequency range of 300 kHz to 3 GHz, which covers the operating frequencies of all **electromagnetic** tools. A specially designed capillary pressure cell with a built-in **transmission** line goes through the porous media. The measured capillary pressure curves serve as an indication of the capillary **hysteresis** during the entire drainage and imbibition cycle. From the scattering characteristics of the built-in **transmission** line, the complex dielectric **permittivity** of the porous media is computed as a function of frequency and water saturation.
Primary Descriptor: HYSTERESIS
Major Descriptors: ABSORPTION; DIELECTRIC PROPERTY; DRAINAGE; ELECTRICAL **CONDUCTIVITY**; ELECTRICAL PROPERTY; **ELECTROMAGNETIC** WAVE SRCE; IMBIBITION; PHYSICAL PROPERTY; SORPTION; WAVE SOURCE
Minor Descriptors: BODY (GEOMETRIC); CABLE; CAPILLARY PRESSURE; CELL (INSTRUMENT); CHART; COAXIAL CABLE; CONTAMINATION; DEFLECTION; DETECTOR; DIFFERENTIAL PRESSURE; DOMAIN; ELECTRIC CABLE; **ELECTRIC** LOGGING; **ELECTROMAGNETIC FIELD**; **ELECTROMAGNETIC** TRANSDUCER; **ELECTROMAGNETISM**; ENGINEERING DRAWING; ENGLISH; ENVIRONMENTAL POLLUTION; FLOW CHART; FREQUENCY; FREQUENCY DOMAIN; GEOMETRY; **GLASS**; **GLASS BEAD**; GRAPH; GRAPHICAL REPRESENTATION; HIGH FREQUENCY; INSTRUMENT; LABORATORY EQUIPMENT; LOW FREQUENCY; MAGNETISM; MATHEMATICAL ANALYSIS; MATHEMATICS; MEASURING; MEETING PAPER TEXT; MINERAL; OIL WETTABILITY; OPTIMIZATION; OXIDE MINERAL; PARTICLE SIZE; POROSITY; POROSITY (ROCK); POROUS MEDIA; PRESSURE; PRESSURE TRANSDUCER; QUARTZ; REFLECTION; **RESISTIVITY**; SAMPLE PREPARATION; SAND; SATURATION; SATURATION DISTRIBUTION; SCATTERING; SEDIMENT (**GEOLOGY**); SOIL (**EARTH**); SOIL POLLUTION; SPHERE; **SURFACE** PROPERTY; TEST PROBE; TESTING; TRANSDUCER; **TRANSMISSION** (DATA); **TRANSMITTING**; VALIDATION; WATER POLLUTION; WATER SATURATION; WATER WETTABILITY; WAVE PHENOMENON; WAVE PROPAGATION; **WELL** LOGGING; **WELL** LOGGING & SURVEYING; **WELL** LOGGING EQUIPMENT; WETTABILITY
Subject Heading: WELL LOGGING & SURVEYING

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Energy SciTec

05573550 LLNL; RN06086893

Title: Seismoelectric Phenomena in Fluid-Saturated Sediments

Author(s): Block, G I; Harris, J G
Corporate Source: Lawrence Livermore National Laboratory (LLNL), Livermore, CA

Sponsoring Organization: USDOE
Journal: Journal of Geophysical Research
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Country of Publication: United States

Abstract: Seismoelectric phenomena in sediments arise from acoustic wave-induced fluid motion in the pore space, which perturbs the electrostatic equilibrium of the electric double layer on the **grain surfaces**. Experimental techniques and the apparatus built to study this electrokinetic (EK) effect are described and outcomes for studies of seismoelectric phenomena in loose **glass** microspheres and medium- **grain** sand are presented. By varying the NaCl concentration in the pore fluid, we measured the **conductivity** dependence of two kinds of EK behavior: (1) the **electric fields** generated within the samples by the passage of **transmitted** acoustic waves, and (2) the **electromagnetic** wave produced at the fluid-sediment interface by the incident acoustic wave. Both phenomena are caused by relative fluid motion in the sediment pores--this feature is characteristic of poroelastic (Biot) media, but not predicted by either viscoelastic fluid or solid models. A model of plane-wave reflection from a fluid-sediment interface using EK-Biot theory leads to theoretical predictions that compare **well** to the experimental data for both sand and **glass** microspheres.

Descriptors: ACOUSTICS; **ELECTRIC FIELDS**; ELECTRODYNAMICS; **ELECTROMAGNETIC** RADIATION; ELECTROSTATICS; **GLASS**; MICROSPHERES; REFLECTION; SAND; SEDIMENTS
Subject Categories: 58 -- GEOSCIENCES

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